DTC-2000ES

SERVICE MANUAL

US Model
AEP Model

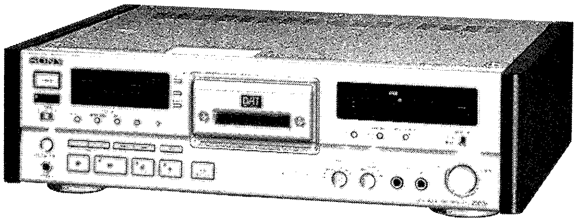


Photo : AEP Model

DAT
Digital Audio Tape

SBM
Super Bit Mapping

Model Name Using Similar Mechanism	NEW
MD Mechanism Type	DATM-53 (US,AEP Model)
	DATM-54 (German Model)

SPECIFICATIONS

Tape	Digital audio tape
Recording head	Rotary head
Recording time	Standard: 120 minutes Long-play mode: 240 minutes (with DT-120)
Tape speed	Standard: 8.15 mm/s Long-play mode: 4.075 mm/s
Drum rotation	Standard: 2,000 rpm Long-play mode: 1,000 rpm
Error correction	Double-Read Solomon code

Tape

Track pitch	13.6 µm (20.4 µm)
Sampling frequency	48 kHz, 44.1 kHz, 32 kHz
Modulation system	8-10 Modulation
Transfer rate	2.46 Mbit/sec
Number of channels	2 channels, stereo
D/A conversion (Quantization)	Standard: 16-bit linear Long-play mode: 12-bit non-linear
Frequency response	Standard: 2–22,000 Hz (±0.5 dB) Long-play mode: 2–14,500 Hz (±0.5 dB)
Signal-to-noise ratio	Standard: more than 94 dB Long-play mode: more than 94 dB
Dynamic range	Standard: more than 94 dB Long-play mode: more than 94 dB
Total harmonic distortion	Standard: less than 0.0035% (1 kHz) Long-play mode: less than 0.075% (1 kHz)
Wow and flutter	Below measurable limit (±0.001% W. PEAK)

Input

	Jack type	Impedance	Rated input level
LINE IN	Phono jack	47 kilohms	–4 dB
DIGITAL IN	Phono jack	75 ohms	0.5 Vp-p, ±20%
DIGITAL IN	Optical jack	—	—
MIC	Phone jack	47 kilohms	–44 dB

Output

	Jack type	Impedance	Rated output	Load Impedance
LINE OUT	Phono jack	470 ohms	–4 dB	More than 10 kilohms
PHONES	Stereo phone jack	220 ohms	1.3 mW	32 ohms
DIGITGAL OUT	Phono jack	75 ohms	0.5Vp-p, ±20%	75 ohms

DIGITAL OUT (optical jack) wavelength: 660 nm

— Continued on next page —

使用時は添付資料も参照のこと
Refer to the additional documents.

DIGITAL AUDIO TAPE DECK

SONY®

General

Power requirements	Model for European countries 220 – 230 V AC, 50/60 Hz Model for U.S.A. 120V AC 60Hz
Power consumption	50 W
Dimensions	Model for European countries Approx 470 × 135 × 380 mm (w/h/d) ($18\,^5/_8 \times 5\,^3/_8 \times 15$ inches) Model for U.S.A. Approx 430 x 135 x 380 mm (w/h/d) ($16\,^{15}/_{16} \times 5\,^3/_8 \times 15$ inches)
Weight	Model for European countries Approx 12.5 kg Model for U.S.A. Approx 11.5kg

Remote commander (supplied)

Remote control system	Infrared control
Power requirements	3V DC, with two size-AA (R6) batteries
Dimensions	Approx 63 x 19 x 175 mm (w/h/d) ($2\,^1/_2 \times\,^3/_4 \times 7$ inches)
Weight	Approx 130 g (5 oz) incl. batteries

Supplied accessories

Remote commander (1)
Sony batteries SUM-3 (NS) (2)
Audio connecting cords (2 phono plugs-to-2 phono plugs, stereo for line inputs and outputs) (2)

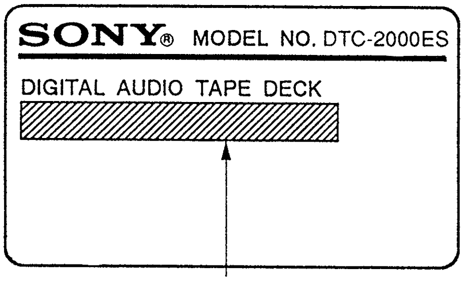
Design and specifications are subject to change without notice.

Optional accessories

Optical cable	DOC-15SP etc.
Connecting cord	RK-C510HG or equivalent (2 phono plugs-to-2 phono plugs: gold-plated connectors and high fidelity LC-OFC line cord) VMC-10HG or equivalent (phono plug-to-phono plug): for digital connection
Cleaning cassette	DT-10CL

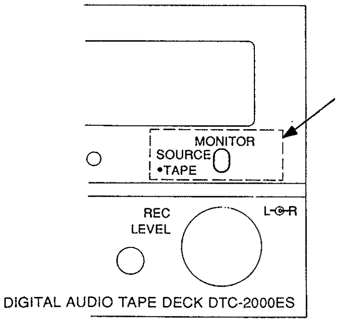
MODEL IDENTIFICATION

— SPECIFICATION LABEL —



US MODEL : AC120V, 60Hz, 50W
AEP, G MODEL : AC220—230V, 50/60Hz, 50W

the right side of the front panel.



The monitor lamp is not installed in G model.

G ; German model

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

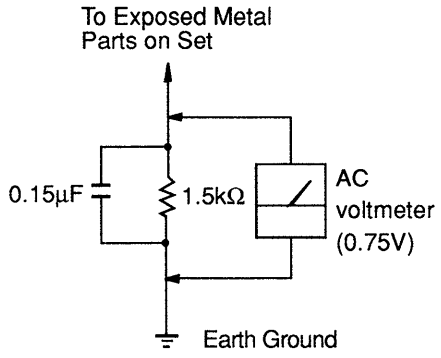


Fig. A. Using an AC voltmeter to check AC leakage.

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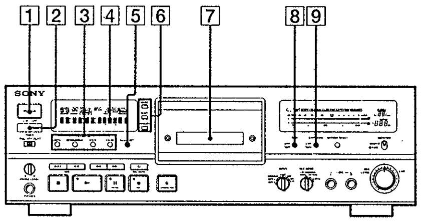
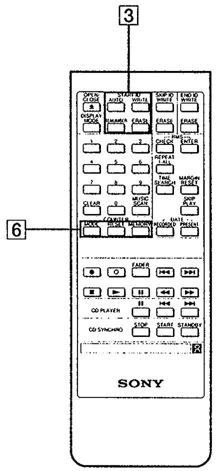
G : German model

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

A





Location and Function of Controls

Refer to pages indicated in parentheses for details

Front Panel/Remote Commander A

1 POWER button
Turns the power on and off.

2 Remote sensor
Receives signals from the remote commander.

3 START ID buttons
AUTO: Press to turn the AUTO indicator on and off. When the AUTO indicator is lit, start IDs are automatically written during recording. When the AUTO indicator is not lit, a start ID is written whenever you press START ID WRITE. (39,44)
RENUMBER: Press to renumber all programs on a tape. If the tape has start IDs only, the tape rewinds to the beginning and program numbers are written starting from 1. (46)
WRITE: Press to write a start ID during recording or playback. (41)
ERASE: Press to erase a start ID. When a start ID is written together with a program number, both codes are simultaneously erased when you press this button.(43,47)

4 Display window (left)
Indicates the operating status.

5 CLOCK SET button
Press to set the built-in clock. (18)

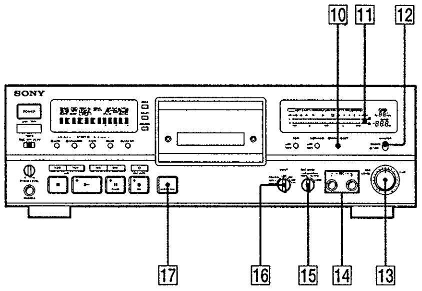
6 Counter setting buttons
MODE button: Press to select the display of absolute time, elapsed playing time, remaining cassette playing time, and tape running time (linear counter). (19,55)
RESET button: Press to zero the linear counter. (60)
MEMORY button: Press to memorize a position (memory play and memory stop functions). (60)

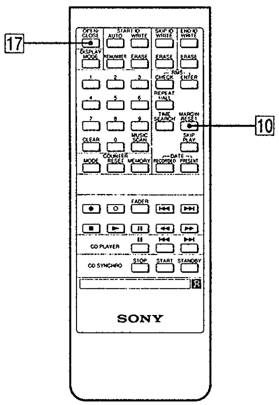
7 Cassette lid/compartment
Insert a cassette with the window side up and the safety tab facing you. A window in the lid of the cassette compartment allows viewing of the cassette operation. (20)

8 SBM (Super Bit Mapping) switch
Set to ON for Super Bit Mapping during recording an analog or digital source through the LINE IN jacks in STANDARD recording mode (REC MODE switch). (23)

9 EMPHASIS switch
Press to add emphasis during analog recording. (25)

A





SECTION 1
GENERAL

This section is extracted from instruction manual.

Location and Function of Controls

10 MARGIN RESET button
Press to reset the MARGIN indication. "- -" appears. (30)

11 Display window (right)
Shows the signal level during recording and playback.

12 MONITOR switch
Use during recording to select the signal output from the LINE OUT connector, DIGITAL OUT connector, and the PHONES jack. Set to SOURCE to output the source signal. Set to TAPE to output the tape recorded signal. During playback, signal monitoring is possible at either setting. (29)

13 REC LEVEL (recording level) controls
Use to adjust the recording level and balance during analog signal recording. The outer knob controls the L (left) channel level and the inner knob the R (right) channel level. Adjust both knobs together, or independently by turning one knob while holding the other. Recording level adjustment is unnecessary when recording digital signals. (30)

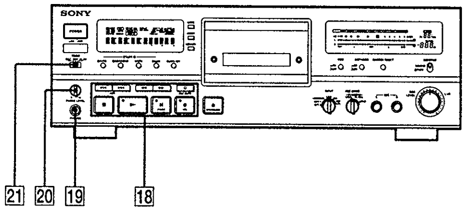
14 MIC (microphone) jacks (L/R)
Connect microphones with a phone plug here.

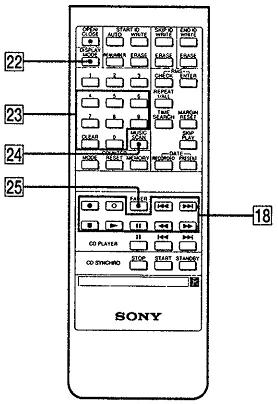
15 REC MODE selector
Normally set to STANDARD. Set to LONG to record analog or digital signals at 32-kHz in long-play mode. (31)

16 INPUT selector switch
Selects the input signal to be recorded.
LINE: For recording from a sound source connected to the LINE IN jacks. (14)
COAXIAL: For recording from a sound source connected to the DIGITAL IN (COAXIAL) jack. (14,26)
OPT1: For recording from a sound source connected to the DIGITAL IN (OPT1) jack. (14,26)
OPT2: For recording from a sound source connected to the DIGITAL IN (OPT2) jack. (14,26)
MIC: For recording from microphones connected to the MIC jacks. (26)
MIC ATT: For recording vocals or musical instruments with a microphone. Automatically lowers (attenuates) excessively high signal levels. (26)

17 ≜ OPEN/CLOSE button
Press to open or close the cassette compartment. (20)

A

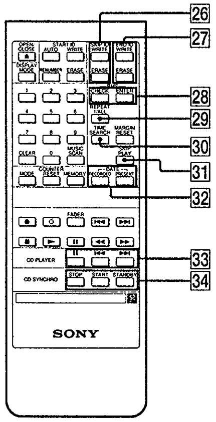




Location and Function of Controls

18 Tape operation buttons
■ (stop): Press to stop recording or playback.
► (play): Press to start playback or recording.
II PAUSE: Press to pause recording or playback. To restart recording or playback, press this button again or ►.
If the unit stays in pause mode for about 10 minutes, the mode is automatically released and the unit stops. To restart recording or playback, press ● REC or ►, respectively.
I◁◁ / ▷▷I (AMS): Press to locate the beginning of a selection while the unit is playing or stopped. (57)
◀◀ / ▶▶ (rewind/review, fast-forward/cue): Press while the unit is stopped to rewind or fast-forward the tape.
Press during playback to rewind or fast-forward the tape while monitoring the sound.
O REC MUTE (record muting): Inserts a silent portion (space). (32)
● REC (recording): Press to enter recording pause. Then press II PAUSE or ► to start recording.
19 PHONES (headphones) jack
Connect headphones to this jack.
20 PHONE LEVEL control
Turn to adjust the headphones volume. (54)
21 TIMER switch
Normally set to OFF. Set to REC or PLAY to record or play back at a specific time using an optional audio timer. (68)
22 DISPLAY MODE button
Press to select a complete display, partial display, or no display. (10)
23 Numeric buttons (0-9) and CLEAR button
Use the numeric buttons to specify the program number of the selection to be played back or the starting program number of a sequence during recording. Press CLEAR to erase a program number just entered. (58,62,67)
24 MUSIC SCAN button
Press to listen to the beginning of each selection successively. (65)
25 FADER button
Press for fade-in or fade-out during recording or playback. (34,63)

A



Location and Function of Controls

26 SKIP ID buttons
WRITE: Press at the start of a portion to be skipped later.
During playback, the portion from the skip ID to the next start ID is skipped. (48)
ERASE: Press to erase the nearest skip ID before the current position. (49)
27 END ID buttons
WRITE: Press to write an end ID signifying the end of playback or recording. (50)
ERASE: Press to erase an end ID. (52)
28 RMS* play buttons
ENTER: Press to enter a selection in a program for playback in sequential order. (67)
CHECK: Press to check the contents of a program. (67)
*RMS: Random Music Sensor
29 REPEAT 1/ALL button
Press to select the repeat play mode:
REPEAT 1 → REPEAT ALL → off (64)
30 TIME SEARCH button
Enter the time from the beginning of the tape with the numeric buttons, then press TIME SEARCH to locate the specified position. (61)
31 SKIP PLAY button
Press to activate the skip ID code function. Portions of a tape marked with a skip ID are skipped. (58)
32 DATE buttons
RECORDED: Press to display the recording date of the tape being played. (28)
PRESENT: Press to display the current time. (19)
33 CD operation buttons (35)
For use only in conjunction with a Sony CD player equipped with a remote commander.
II (pause): Press twice to start playback. Press once during playback to pause.
I◀◀ / ▶▶I (AMS): Press to locate the start of specific selections on a CD.
34 CD SYNCHRO (CD synchronized recording) buttons (35)
Controls the playback of a Sony CD player equipped with a remote commander for synchronized recording with the DAT deck.
STANDBY: Press to place the unit in recording pause.
START: Press to start recording on the DAT deck and playback on the CD player.
STOP: Press to stop recording on the DAT deck and playback on the CD player.

Location and Function of Controls

Remote Commander Operation

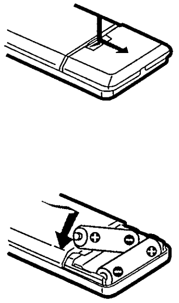
Each button on the remote commander functions in the same way as those on the front panel with the same name. The following operations, however, cannot be performed with the remote commander, and must be done on the front panel controls:

- Turning the power on and off
- Setting the INPUT switch
- Adjusting the recording level and balance
- Adjusting the headphones level
- Setting the TAPE/SOURCE switch
- Setting the TIMER switch
- Selecting the recording mode (standard or long)
- Turning SBM and emphasis functions on and off
- Setting the clock

The remote commander must be used for the following operations and functions:

- Synchronized recording with a Sony CD player
- Controlling pause and AMS functions on a Sony CD player
- Writing and erasing skip IDs and end IDs
- Repeat play
- Skip play
- RMS (Random Music Sensor) play
- Changing the display mode
- Adjusting the brightness of the display
- Time search function
- Fade-in/fade-out function
- Displaying the recording date or current time
- Music scan function

B



Insert two size-AA (R6) batteries with correct polarity, then close the lid.

Location and Function of Controls

Notes on the Remote Commander

- Do not expose the remote sensor on the deck to strong light such as direct sunlight and lighting equipment.
- Avoid obstructions between the remote commander and the remote sensor since they may prevent the reception of commands by the deck.
- Point the remote commander directly at the remote sensor on the deck.
- As the batteries weaken, the remote control distance will become shorter. Replace the batteries when this occurs.

Installing batteries B

To avoid battery leakage

When the commander will not be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

Battery life

About half a year of normal operation can be expected when using Sony SUM-3 (NS) batteries.

Display Window

To turn off the display

When you turn on the unit, the display lights up. During recording or playback, you can specify a partial display or no display.
Using the remote commander, press DISPLAY MODE to change the display as follows:

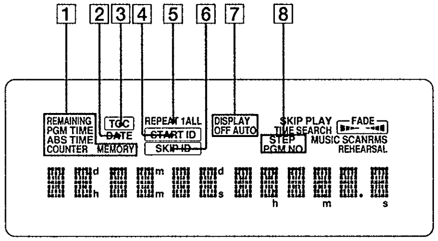
Normal display ←
↓
Peak level meters and margin indicator turn off.
(The DISPLAY OFF indicator lights.)
↓
The entire display turns off during recording and playback*.
(The DISPLAY OFF AUTO indicator lights momentarily just before the display turns off.)

* If you press DISPLAY MODE when the unit is not recording or playing back, the DISPLAY OFF AUTO indicator lights and the entire display turns off immediately when you start recording or playback.

To adjust the brightness of the display

Hold down MODE and press numeric buttons 1, 2 or 3 on the remote commander. The higher the number, the darker the display becomes.

C


1
2
3
4
5
6
7
8
REMAINING
PGM TIME
ABS TIME
COUNTER
TOC
DATE
MEMORY
REPEAT 1ALL
START ID
SKIP ID
DISPLAY
OFF AUTO
SKIP PLAY
TIME SEARCH
STEP
PGM NO.
FADE
MUSIC SCAN
RMS
REHEARSAL
d
h
m
s

Location and Function of Controls

Display Window (Left) C

1 REMAINING (remaining time): Lights when the counter shows the remaining time of the tape.
PGM TIME (program time): Lights when the counter shows the elapsed time of the current selection.
ABS TIME (absolute time) indicator: Lights when the counter shows the elapsed time from the beginning of the tape.
COUNTER: Lights when the counter shows the elapsed time from the start of the tape or from the position at which RESET was last pressed.
MEMORY: Lights with the COUNTER indication to indicate that the memory function is on.

2 DATE indicator
Lights when RECORDED is pressed to show the recording date of the tape being played. Flashes when PRESENT is pressed to show current time.

3 TOC (Table Of Contents) indicator
Lights when a pre-recorded DAT cassette is played.

4 START ID indicator
Flashes (for 9 or 18 seconds) when writing or erasing a start ID code, and lights when a start ID is detected during playback.

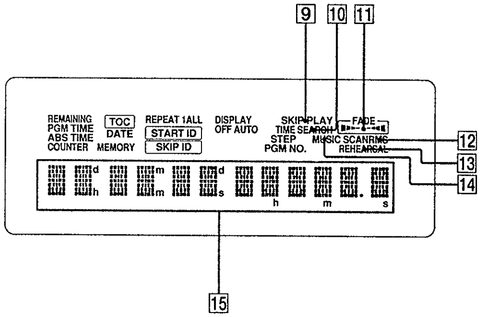
5 REPEAT indicators
REPEAT 1: Lights during repeat play of a single selection.
REPEAT ALL: Lights during repeat play of all selections.

6 SKIP ID indicator
Lights (for 1 or 2 seconds) when writing or erasing a skip ID code or when a skip ID is detected during playback.

7 DISPLAY OFF AUTO indicator
Lights to indicate that the entire display will turn off at the start of recording or playback.

8 STEP/PGM NO. indicator
PGM NO. indicates the program number of the selection being played. When the RMS function is on (67), STEP appears to indicate the playing order of programmed selection.

C


9
10
11
12
13
14
15
REMAINING
PGM TIME
ABS TIME
COUNTER
TOC
DATE
MEMORY
REPEAT 1ALL
START ID
SKIP ID
DISPLAY
OFF AUTO
SKIP PLAY
TIME SEARCH
STEP
PGM NO.
FADE
MUSIC SCAN
RMS
REHEARSAL
d
h
m
s

Location and Function of Controls

9 SKIP PLAY indicator
Lights during playback when a portion marked by a skip ID is being skipped .

10 TIME SEARCH indicator
Lights when the time search function is on and the unit advances to the end of a specified (absolute) time from the start of the tape.

11 FADE indicator
FADE ◂‖ : Flashes as recording or playback fades in.
FADE ‖▸ : Flashes as recording of playback fades out.

12 RMS (Random Music Sensor) indicator
Lights when the RMS function is on. (67)
Specified program numbers appear on the display.

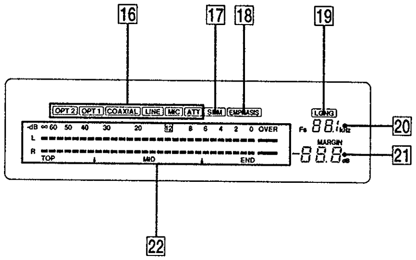
13 REHEARSAL indicator
Lights when the rehearsal function is on. (42,48,51) Fine adjustments made to start, skip and end ID settings appear on the display in units of 0.3 second.

14 MUSIC SCAN indicator
Light as the music scan function plays the beginning of all selections in succession.

15 Time indicator
Indicates the tape running time, absolute time, elapsed time of the current selection, or remaining time. The displayed item changes each time you press MODE.

Location and Function of Controls

D



Display Window (Right) D

16 INPUT selector indicators
Lights to indicate the input signal currently selected by the INPUT selector switch.

17 SBM indicator
Lights when the SBM function is on (applicable during analog recording only).

18 EMPHASIS indicator
Lights when the emphasis function is on (during recording or playback).

19 LONG play mode indicator
Lights during recording or playback in long-play mode.

20 Sampling frequency indicator
48 kHz: Lights during recording or playback of analog input signals (standard mode).
44.1 kHz: Lights during recording or playback of a CD, MD, DCC or a pre-recorded DAT cassette tape.
32 kHz: Lights during recording or playback of analog input signals (long-play mode).

21 MARGIN indicator
Indicates the most recent margin between the peak input audio signal and 0 dB.

22 Peak level meters
Indicate the signal level during playback and recording for the left and right channels. A peak hold function holds the indication at peak level momentarily.

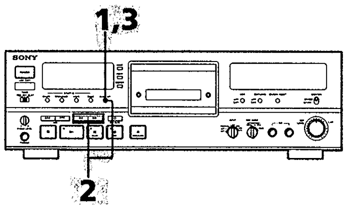
Clock Setting

This unit employs a built-in clock to keep track of the current date and time. Once you set the date and time, this information will be recorded on the tape along with the audio signal during recording, allowing you to check the recording date of the tape during playback at a later time.

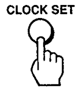
1 Press CLOCK SET.
The year indication begins to flash.

2 Press ▶▶ or ◀◀ to enter the year, month, day, hour and minute.
Pressing ▶▶ increases the display value; pressing ◀◀ decreases the value.
To move to the next item, press CLOCK SET. The day of the week is automatically calculated for any year from 1987 to 2086.

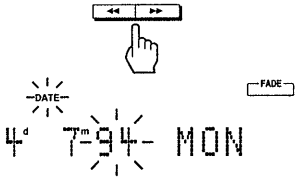
3 After making all settings, press CLOCK SET in synchronization with a time signal.



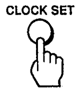
1

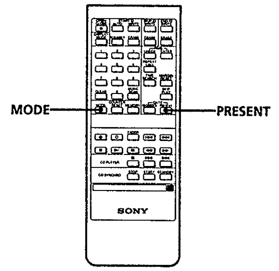


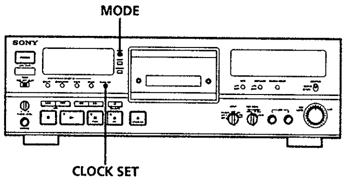
2



3







Clock Setting

To view the date or time
Press PRESENT to display the date or time. Press MODE to return to the counter display.

To reset the time
Press PRESENT until the time appears, then do steps 1 to 3 on the previous page to reset the time.

Time display
The time is displayed in a 12-hour format. Midnight and noon are displayed as follows:
Midnight: 12:00 AM
Noon: 12:00 PM

Built-in clock
This unit's built-in clock uses a quartz oscillator, and is thus susceptible to time variations caused by changes in temperature and other conditions. For precise time stamping, it is recommended that you set the clock once a week.

Precaution on setting the clock
Although this unit's clock automatically adjusts for leap years and long and short months, do not enter a date which does not exist.

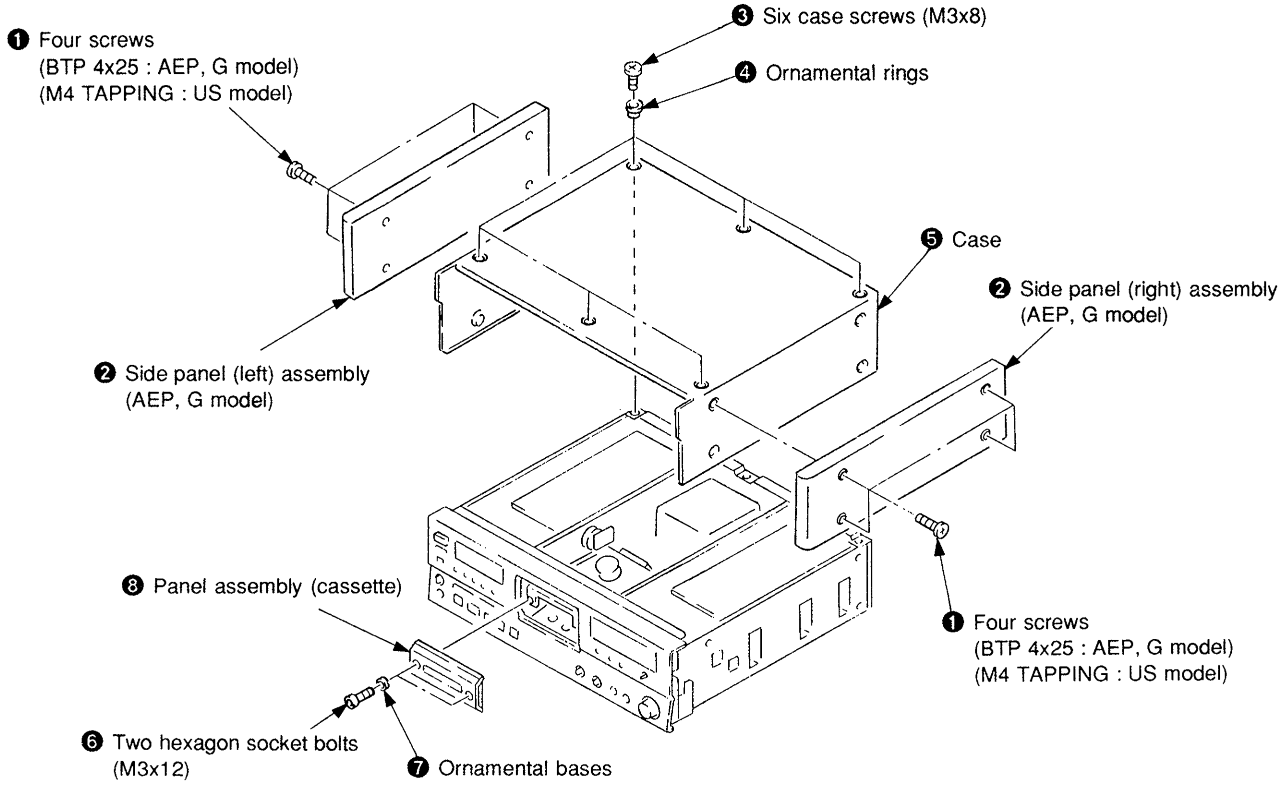
Notes
- Pressing CLOCK SET for the first time after purchasing the unit causes "--d--m--" to appear. Do steps 2 and 3 on the previous page to set the clock.
- Set the clock while the tape is stopped.
- This unit uses a back-up battery to keep the clock running when the power is turned off. The life of the battery under normal use is approximately seven years. When the battery starts to run down, the clock will stop operating normally. When this occurs, have the battery replaced at your dealer or nearest Sony Service Center (a battery replacement fee is required).

SECTION 2
DISASSEMBLY

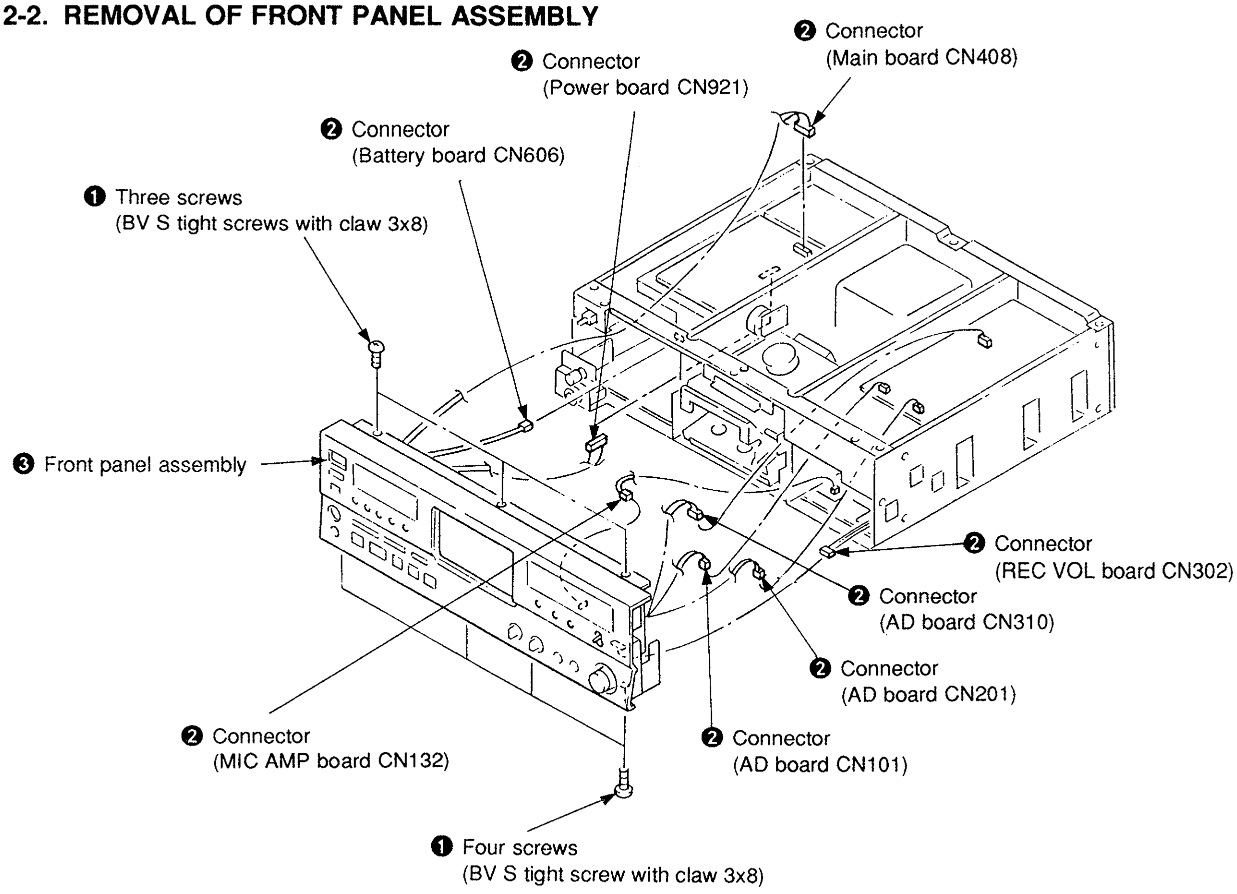
G : German model

- Remove the parts numbered in the figure (❶, etc.) in numerical order.

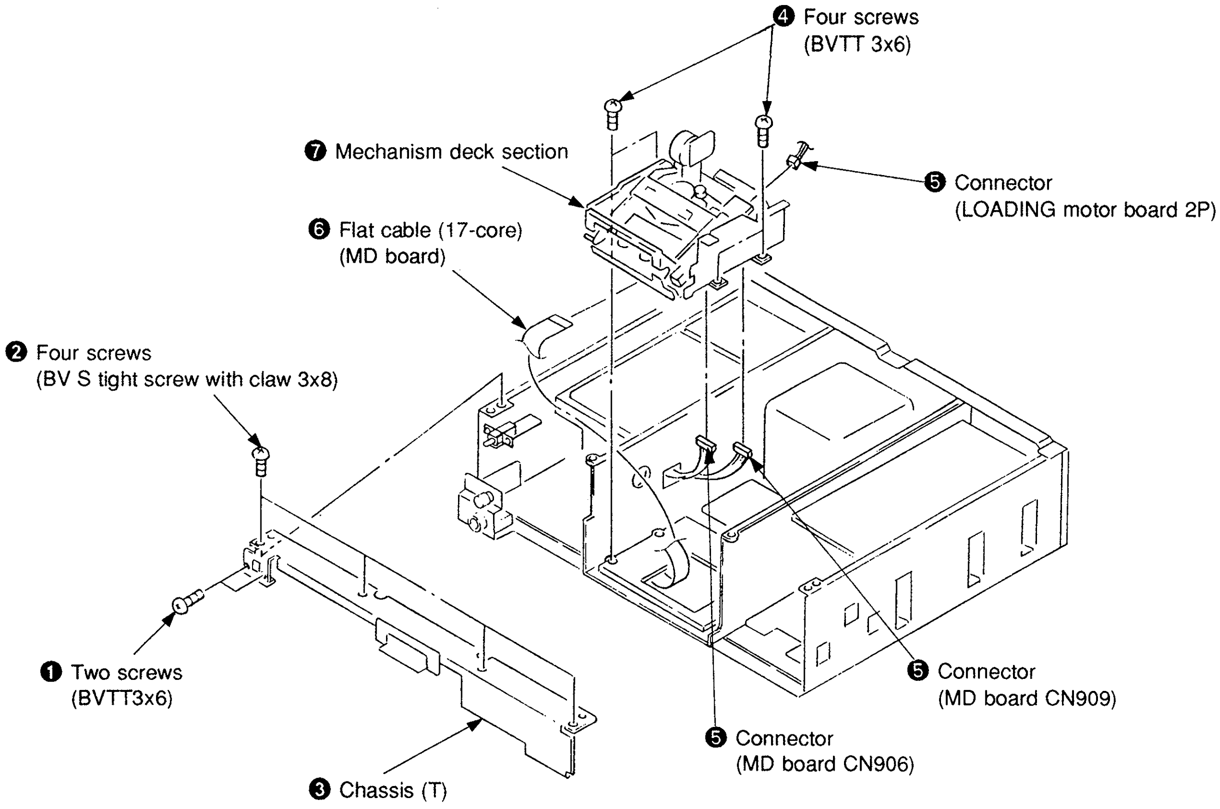
2-1. REMOVAL OF CASE, SIDE PANEL ASSEMBLIES, PANEL ASSEMBLY (CASSETTE)


❸ Six case screws (M3x8)
❶ Four screws
(BTP 4x25 : AEP, G model)
(M4 TAPPING : US model)
❹ Ornamental rings
❺ Case
❷ Side panel (right) assembly
(AEP, G model)
❷ Side panel (left) assembly
(AEP, G model)
❽ Panel assembly (cassette)
❶ Four screws
(BTP 4x25 : AEP, G model)
(M4 TAPPING : US model)
❻ Two hexagon socket bolts
(M3x12)
❼ Ornamental bases

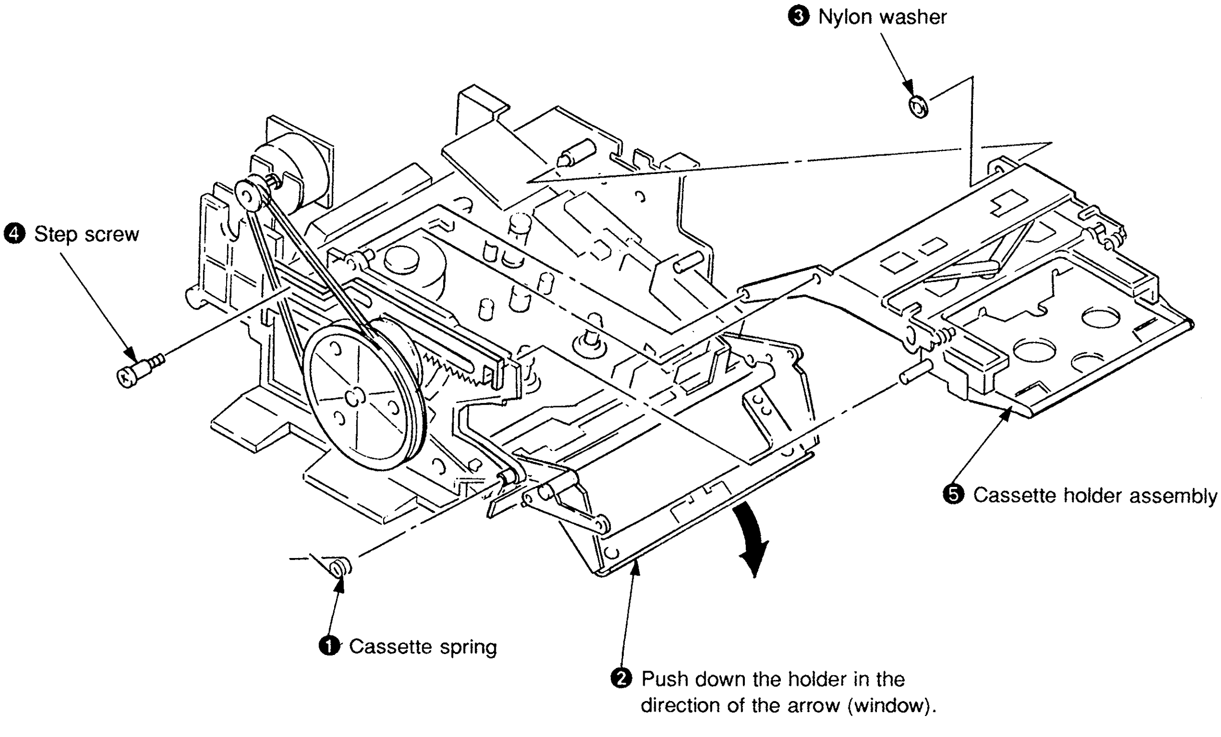
2-2. REMOVAL OF FRONT PANEL ASSEMBLY


❷ Connector
(Main board CN408)
❷ Connector
(Power board CN921)
❷ Connector
(Battery board CN606)
❶ Three screws
(BV S tight screws with claw 3x8)
❸ Front panel assembly
❷ Connector
(REC VOL board CN302)
❷ Connector
(AD board CN310)
❷ Connector
(AD board CN201)
❷ Connector
(MIC AMP board CN132)
❷ Connector
(AD board CN101)
❶ Four screws
(BV S tight screw with claw 3x8)

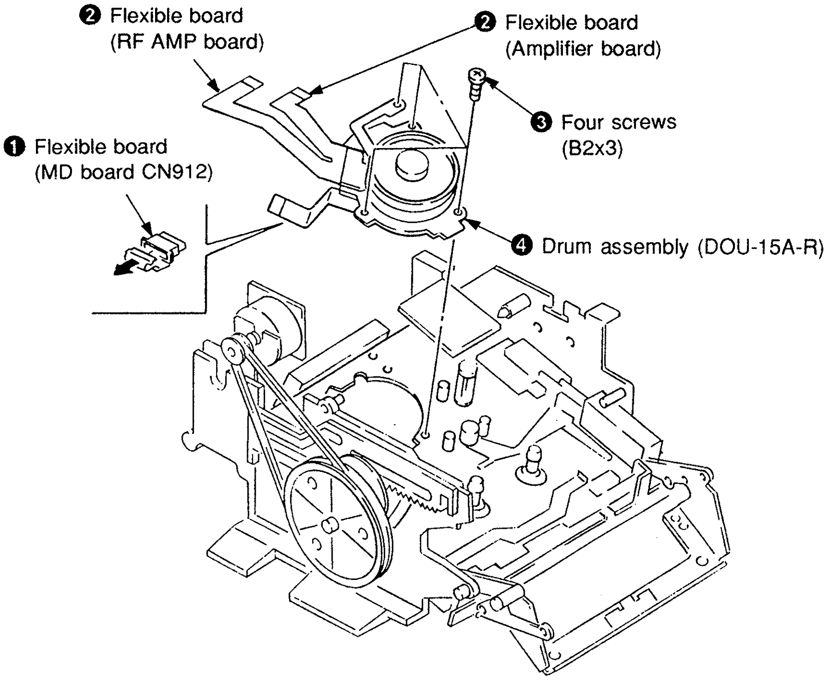
2-3. REMOVAL OF MECHANISM DECK


❹ Four screws
(BVTT 3x6)
❼ Mechanism deck section
❺ Connector
(LOADING motor board 2P)
❻ Flat cable (17-core)
(MD board)
❷ Four screws
(BV S tight screw with claw 3x8)
❶ Two screws
(BVTT3x6)
❺ Connector
(MD board CN909)
❺ Connector
(MD board CN906)
❸ Chassis (T)

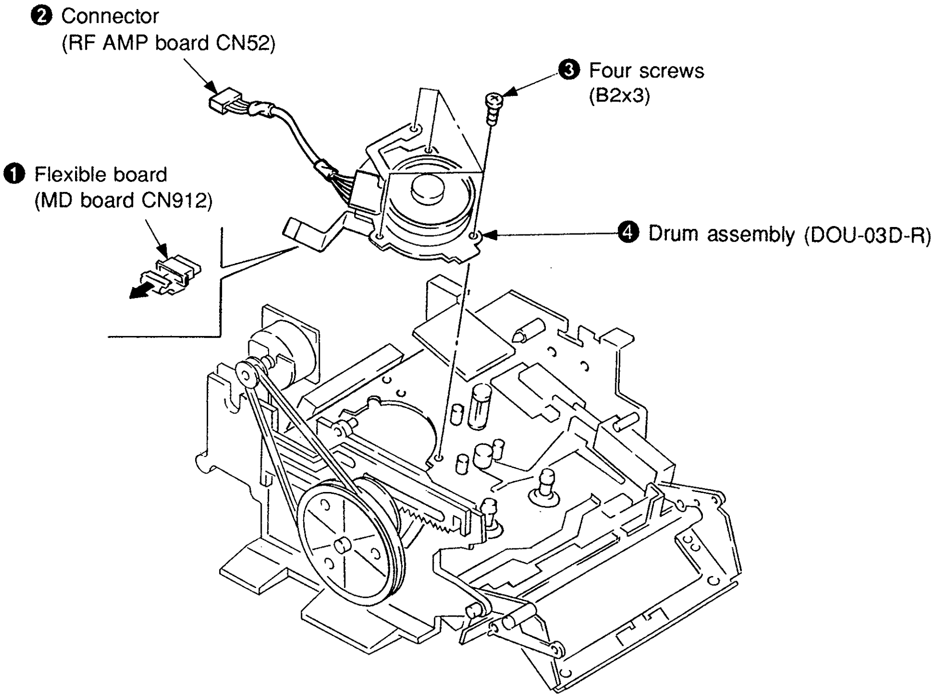
2-4. REMOVAL OF CASSETTE HOLDER ASSEMBLY


❸ Nylon washer
❹ Step screw
❺ Cassette holder assembly
❶ Cassette spring
❷ Push down the holder in the
direction of the arrow (window).

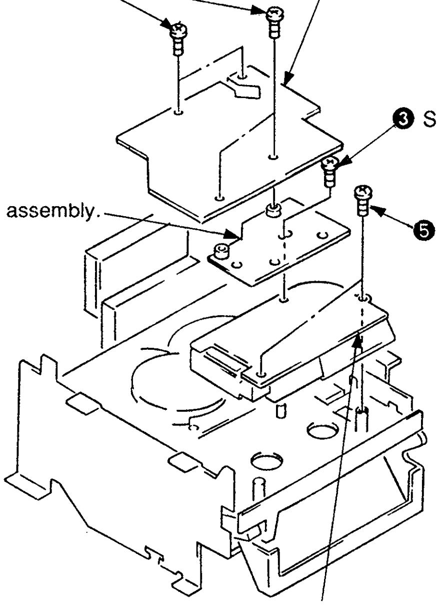
2-5. REMOVAL OF DRUM ASSEMBLY (DOU-15A-R) (US, AEP MODEL)


❷ Flexible board
(RF AMP board)
❷ Flexible board
(Amplifier board)
❸ Four screws
(B2x3)
❶ Flexible board
(MD board CN912)
❹ Drum assembly (DOU-15A-R)

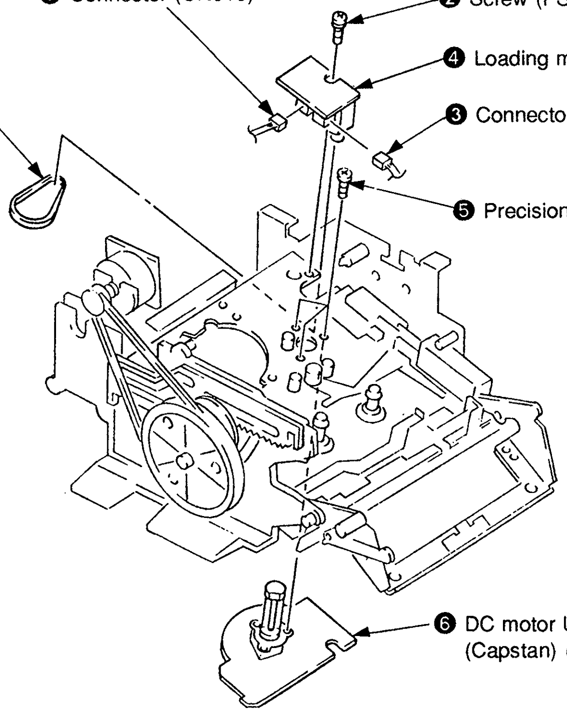
REMOVAL OF DRUM ASSEMBLY (DOU-03D-R) (G MODEL)


❷ Connector
(RF AMP board CN52)
❸ Four screws
(B2x3)
❶ Flexible board
(MD board CN912)
❹ Drum assembly (DOU-03D-R)

2-6. REMOVAL OF MD BOARD, DC-MOTOR U-2A (REEL) (M903)


❶ Four screws
(B2.6x4)
❷ Remove the connectors (CN901, 903, 904, 905, 907, 908, 911, 913, 915, 916) on the MD board and remove the MD board.
❸ Screw (B2x3)
❹ MD PC board bracket assembly.
❺ Two screws
(B2x3)
❻ DC motor U-2A (reel)
(M903)

2-7. REMOVAL OF LOADING MOTOR BOARD, DC MOTOR U-17A (CAPSTAN) (M902)

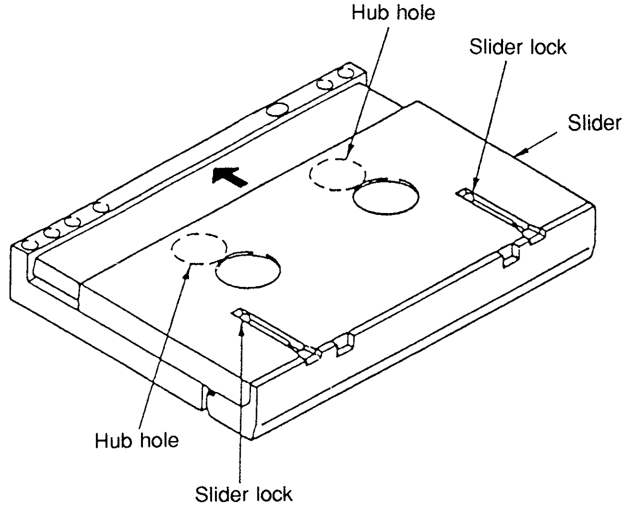

❸ Connector (CN919)
❷ Screw (PS2x4)
❶ Take-up belt
❹ Loading motor board
❸ Connector (CN920)
❺ Precision screw P1.7x4 (Three)
❻ DC motor U-17A
(Capstan) (M902)

SECTION 3
ADJUSTMENTS

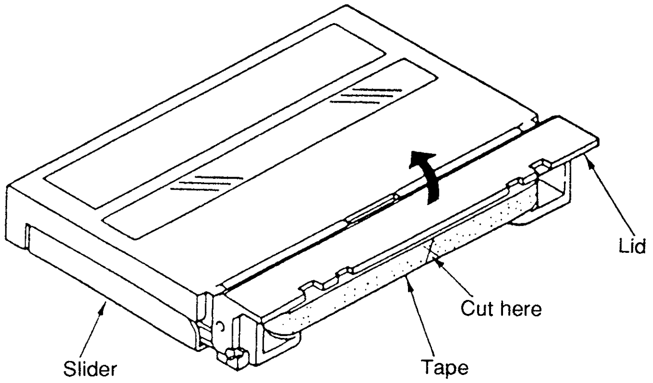
[Notes When Making Adjustments]

1. Adjustments should be performed in the order listed.
2. Use the following test tapes:
   TY-7111 (8-909-812-00) ....Level
   TY-7252 (8-909-822-00) ....Tracking
   TY-7551 (8-909-814-00) ....Functions
   TY-30B (8-892-358-00) ....Blank

   Use the following torque meter:
   TW-7131 (8-909-708-71) ....FWD
3. Switches and controls should be set as follows unless otherwise specified.
   TIMER switch : OFF
   REC MODE switch : LONG
   INPUT switch : OPTICAL
   REC LEVEL control : Min
   PHONES LEVEL control : Min
4. Making an end sensor cassette
   (1) Press the tape slider lock and move the slider in the direction indicated by the arrow.

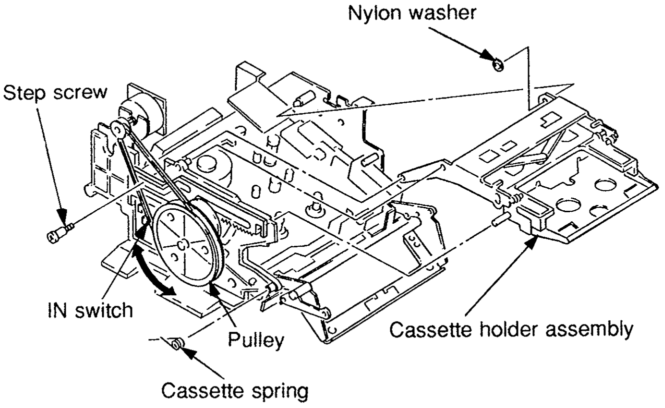


   (2) Open the lid and cut the tape.



   (3) Turn the hubs until the tape is completely inside the cassette (both T and S sides).
   The end sensor cassette for the end sensor adjustments is now ready for use.

5. Be careful not to move RV1 to RV4 on the RF AMP (REC/PB) board in the mechanism assembly.
6. To adjust the tape path and guides, remove the holder assembly as shown in the diagram and use the DAT holder jig (J-8000-002-A). This will make it easier to perform the adjustments.
   - First turning the pulley counterclockwise to set it into the loading OUT state will make it easier to remove and reattach the holder assembly.
   - To perform the adjustments, turn the pulley clockwise to set it into the loading IN state, load the cassette tape and set the IN switch to ON.



7. Test mode
   - To set the test mode, short-circuit between the check land FXTEST and GND on the main board. At this time, "FADE" will be shown blinking on the FL display.

   Test mode (Short-circuit between XTEST and GND)

   ① Turn on the "DPG" at the left side of the display.(press the AMS ⊳⊳▯ key)
      - 2, T2, F guide adjustment
      - End sensor adjustment
      - Tape path adjustment
      - DPG adjustment
      - ATF pilot adjustments

   ② Turn on the "TORQUE" at the left side of the display. (Press the FWD key.)
      - FWD torque adjustments] (Torque setting
      - FWD back tension adjustments] mode)

   - To exit the test mode, remove the short-circuit between XTEST and GND. After completing the adjustment, be sure to exit the test mode.

8. After completing the adjustment, refer to the following section for the tape speed check.
   (1) Set the REC MODE switch to STANDARD and check that recording and playback are carried out properly. (x1)

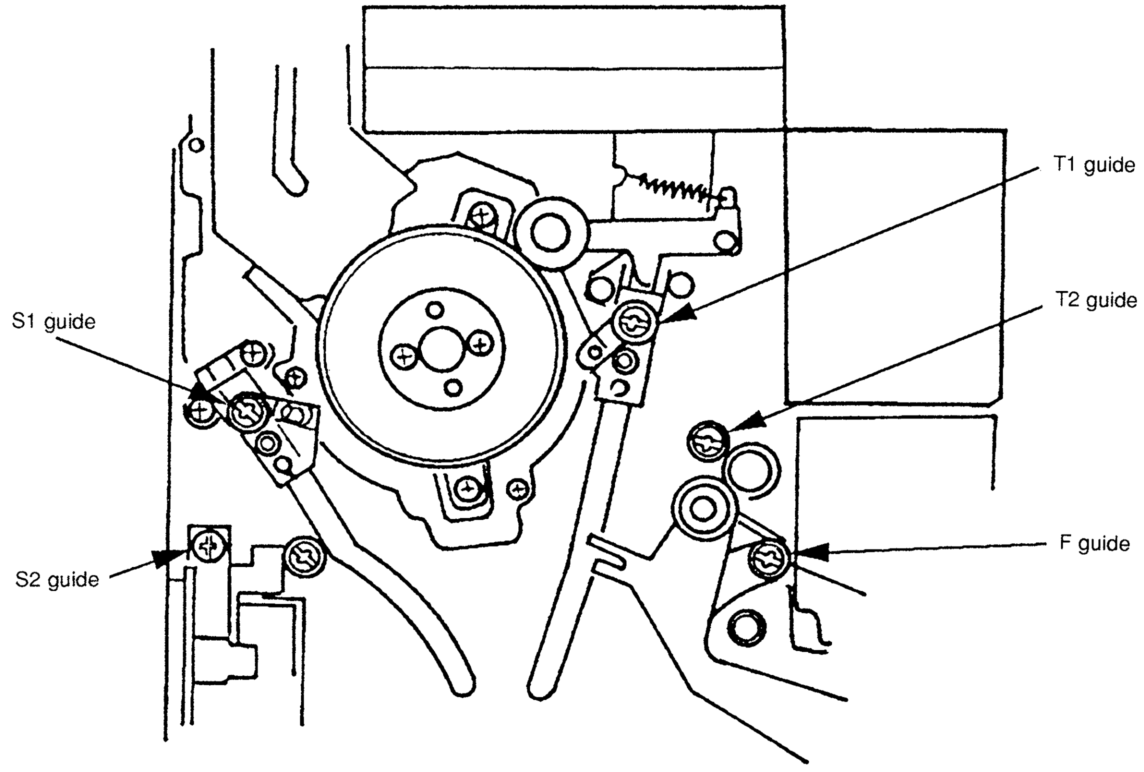
   (2) Set the REC MODE switch to LONG and check that recording and playback are carried out properly. (x0.5)

   (3) Check that friction sounds are produced when CUE (►+►►) and REVIEW (►+◄◄) are pressed. (x3, x8)

   (4) Check that the time displayed after FF (►►) and REV (◄◄) is correct. (x16)

   (5) Check that SEARCH (▷▷|, |◁◁) is carried out properly.

[Adjustment Parts Location]
— Mechanism Assembly —



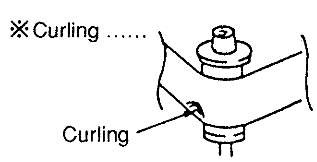
3-1. MECHANICAL ADJUSTMENTS

After replacing the drum or related parts, adjust the S2, T2, and F guides and then perform the tape path (x1.5 FWD mode) fine adjustment in electrical adjustments.

[S2, T2/F Guide Adjustment]

Adjustment Procedure :

1. Set the test mode and load the test tape TY-7252 (8-909-822-00).
2. Set the MONITOR switch to STANDARD (ATF : OFF) and press the AMS (▷▷▯) key.
   Check that there is no curling at the upper or lower flange of S2, T2, or F guides in the FWD mode.
   If there is curling, return the S2, T2, and F guides to a higher position and adjust by screwing them in.



Curling refers to the distortion on the tape during FWD operation. It can be identified by directing a light at the tape.

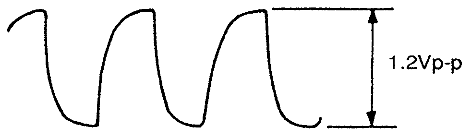
3-2. ELECTRICAL ADJUSTMENTS

[End Sensor Adjustment]

Perform the following adjustment when the holder has been removed or the mechanism deck section replaced.

Adjustment Procedure :

1. Connect the oscilloscope to pin ② of CN915 (S side) and Pin ⑥ of CN901 (T side) of the MD board.
2. Set the test mode, load the end sensor cassette, and set the STOP (■) mode.
3. Adjust RV902 (S side) and RV901 (T side) of the MD board so that the p-p value of the waveform of the oscilloscope becomes 1.2 Vp-p.



Adjustment Point : MD board

[FWD Torque Adjustment]

Adjustment Procedure :

1. Set the torque measuring mode (in the test mode, "TORQUE" lights up at the left side of the display) and load the FWD torque meter TW-7131 (8-909-708-71).
2. Set the PLAY (►) mode.
3. Press and adjust the FF/REW button so that the minimum FWD torque (T side take up torque) value is 13 g • cm to 13.5 g • cm .
4. Confirm that the value indicated by the torque meter remains for one full cycle.
5. Confirm that the maximum value is below 16 g • cm.

[FWD Back Tension Adjustment]

Adjustment Procedure :

1. Set the torque measuring mode (in the test mode, "TORQUE" lights up at the left side of the display) and load the FWD torque meter TW-7131 (8-909-708-71).
2. Set the PLAY (►) mode.
3. Press and adjust the AMS button so that the back tension (S side) is 8 g • cm to 8.5 g • cm .
4. Confirm that the value indicated by the torque meter remains for one full cycle.
5. Confirm that the maximum value is below 9.5 g • cm.

[REV Torque, REV Back tension Check]

1. After the FWD torque, back tension adjustment, press PLAY (►) once more and set the REV (◄) mode.
2. Confirm that the REV torque is 13.5 g • cm to 17.5 g • cm and the REV back tension is 7.5 g • cm to 11.5 g • cm.

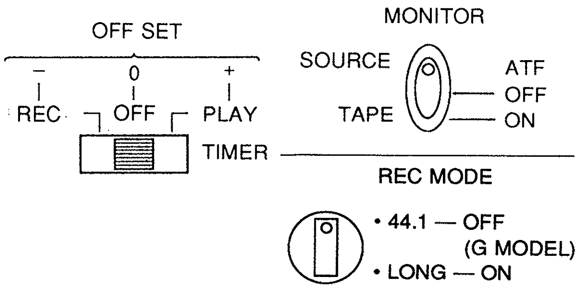
[Tape Path Fine Adjustment (x1.5 FWD Mode)]

Perform the following adjustment when the drum has been replaced.

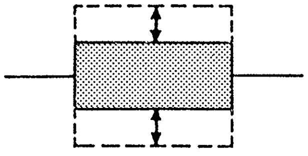
Adjustment Procedure :

1. Connect CH-1 terminal of the oscilloscope to the checkland PB RF0 (M-RF) of the main board and the CH-2 terminal to SWP-M.
2. Set the test mode and load the test tape TY-7252 (8-909-822-00).
3. Press the AMS (▷▷▯) key.

Role of Switches in Test Mode

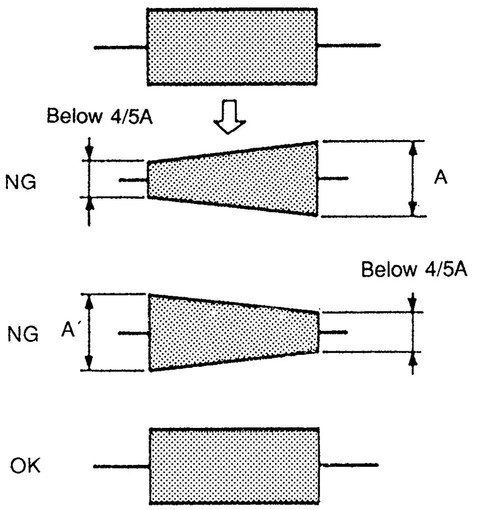


4. With the MONITOR switch set to SOURCE (ATF : OFF), TIMER switch set to REC or PLAY (OFFSET : + or —), adjust the S1 guide and T1 guide finely so that the oscilloscope RF signal waveform remains the same when high-low is repeated.

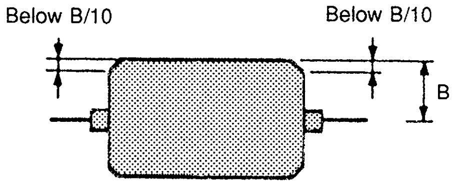


* Finish the adjustment by screwing in. If there is curling at the upper or lower flange of the S3, T2, or F guide, perform the guide adjustment.

5. With the MONITOR switch set to TAPE (ATF, ON) and TIMER switch set to REC or PLAY (OFFSET : + or –), check the RF signal waveform.



6. With the MONITOR switch set to TAPE (ATF, ON) and TIMER switch set to REC or PLAY (OFFSET : 0), check the RF signal waveform.
   (1) Confirm that the RF signal waveform peak value (B) is above 60 Vm.
   (2) Confirm that the undershoot level of the RF signal waveform flat portion is within 10%.



7. When the measured values are not within the above specifications, repeat steps 3 to 6 above.

Adjustment Point : Mechanism assembly

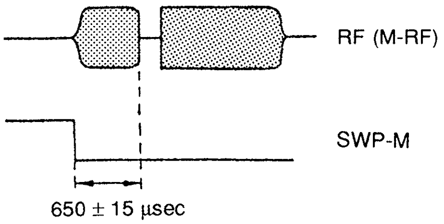
[DPG Adjustment]

Be sure to perform the following adjustment when the drum has been replaced.

Adjustment Procedure:

1. Connect the CH-1 terminal of the oscilloscope to the checkland PB RF0 (M-RF) of the main board and the CH-2 terminal to SWP-M.
   [By triggering the CH-2 and inverting its signal, the signal will synchronize with the falling edge.]
2. Set the test mode and load the test tape TY-7252 (8-909-822-00).
3. Set the MONITOR switch to TAPE (ATF : ON) and TIMER switch set to OFF (OFFSET : 0).
4. Press the AMS (▷▷|) key.
5. Press PLAY (►).
6. "DPG OK" will be shown at the left side of the display.

Confirm that the gap between the SWP signal and RF signal of the oscilloscope is 650 ± 15 µsec.



3-3. CHECKS AND ADJUSTMENTS FOR DATE FUNCTION

[Clock IC Back-up Check]

- The clock will be reset if the pattern around the lithium battery (BT601) or the clock IC (IC662) has been short-circuited, or the panel L board connector CN605 disconnected when the front panel assembly was removed.

[The DATE display will show [--^{d}--^{m}--] [--$_{h}$--$_{m}$--$_{s}$] even if the PRESET button is pressed.]

At this time, check the back-up function according to the following procedure.

(1) Connect the DC voltmeter + terminal to Pin ③ of CN608 (VOLT) and – terminal to Pin ② (CUR) on the battery board.
(2) When the power is off, the voltage value of step (1) should be less than +30 mV.
(When the voltage becomes above +30 mV, check around IC602 or replace it.)
(3) When the power is on, the voltage of step (1) should be less than 0 mV (–(minus) indication).
(When the voltage becomes + (plus) indication, check around D603 or replace it.)
(4) When the above voltages are normal, set the preset date and time (year, month, day, day of the week, hour, minute, seconds) according to the instruction manual.
(5) After setting the time in step (4), turn off the power and turn it on again after several seconds, and check that the clock works normally.

[Back-up Battery Replacement]

The life of the back-up battery in normal use (normal temperature, normal humidity) is approximately ten years or more. (In the instruction manual, it is stated as approximately 5 years.)
Take note of the following points on battery replacement.

- Correct the cause of the battery wastage by performing the above "Clock IC Back-up Check".
- The open-circuit voltage of the replaced battery is above 3.0 V when new. If it is less than 2.0V, it indicates that the battery has been consumed completely and must be replaced.
- After replacing the battery, perform "Clock IC Back-up Check" again and set the time.

* The procedure for setting time is described on page 8, 9.

[Clock Frequency Adjustment]

Note :

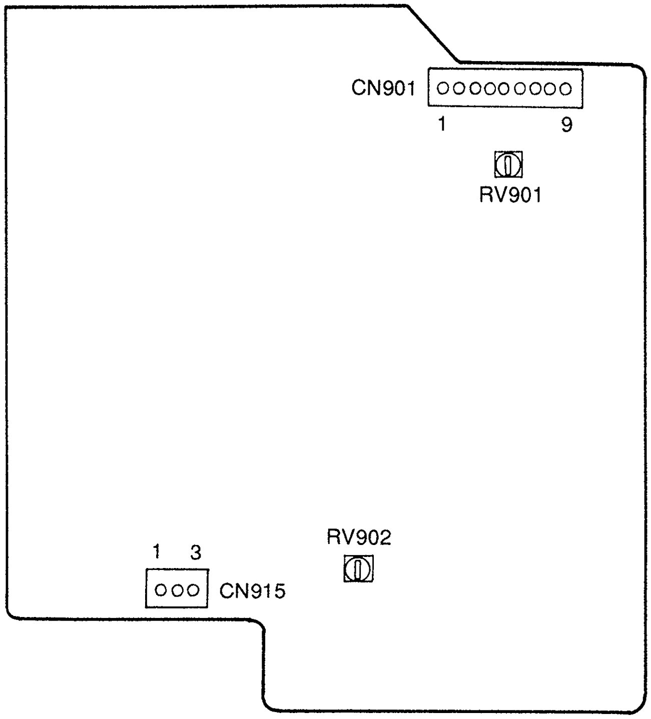
- Perform the following only when the clock frequency must be adjusted (when X602 has been replaced, etc.).
- Be sure to use a frequency counter that has more than six digits.
- This adjustment need not be performed in normal repairs. Do not rotate the trimmer capacitor CT601 on the panel L board.

Adjustment Procedure :

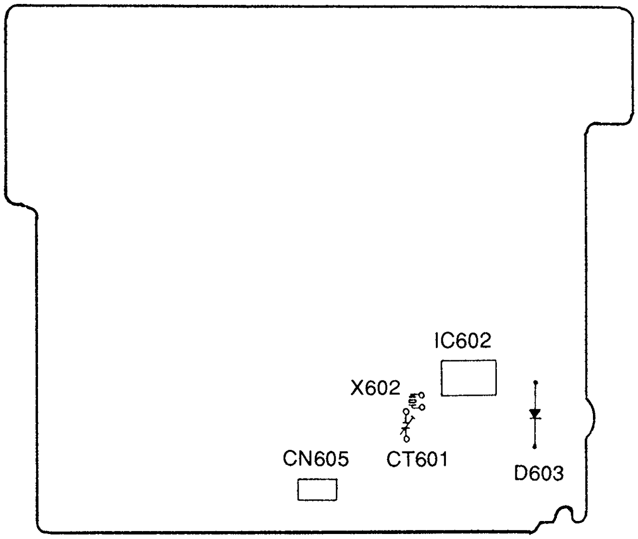
(1) Connect the frequency counter between Pin ④ (INRT) and GND of CN608 of the battery board.
(2) Turn the power on and adjust the trimmer capacitor CT601 so that the reading on the frequency counter becomes the following.
Specification : 2048.00 ± 0.01 Hz (in normal temperature)
(2047.99 to 2048.01 Hz)
(3) Perform the "Clock IC Back-up Check" as described above.

Adjustment Location :

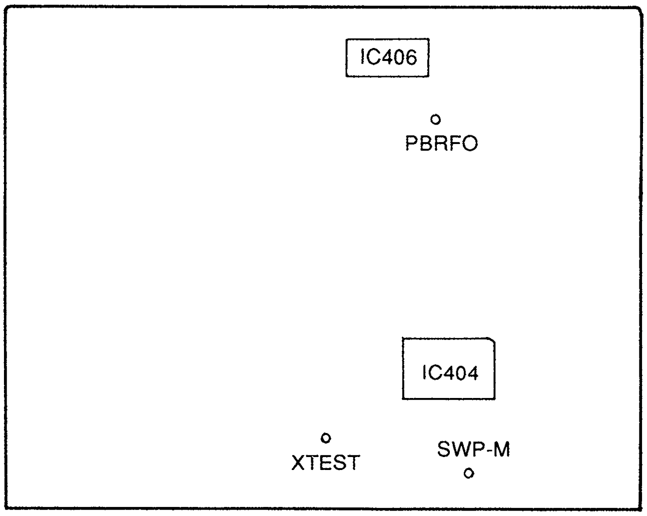
[MD BOARD] — Conductor side —


CN901
1
9
RV901
RV902
1 3
CN915

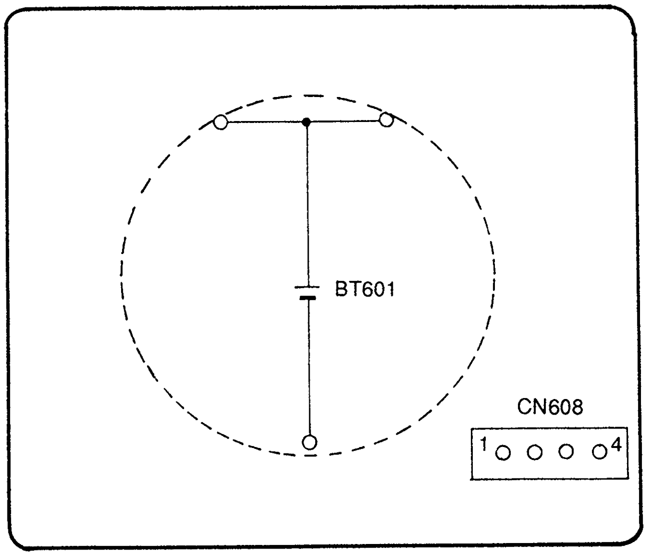
[PANEL L BOARD] — Conductor side —


IC602
X602
CN605
CT601
D603

[MAIN BOARD] — Component side —

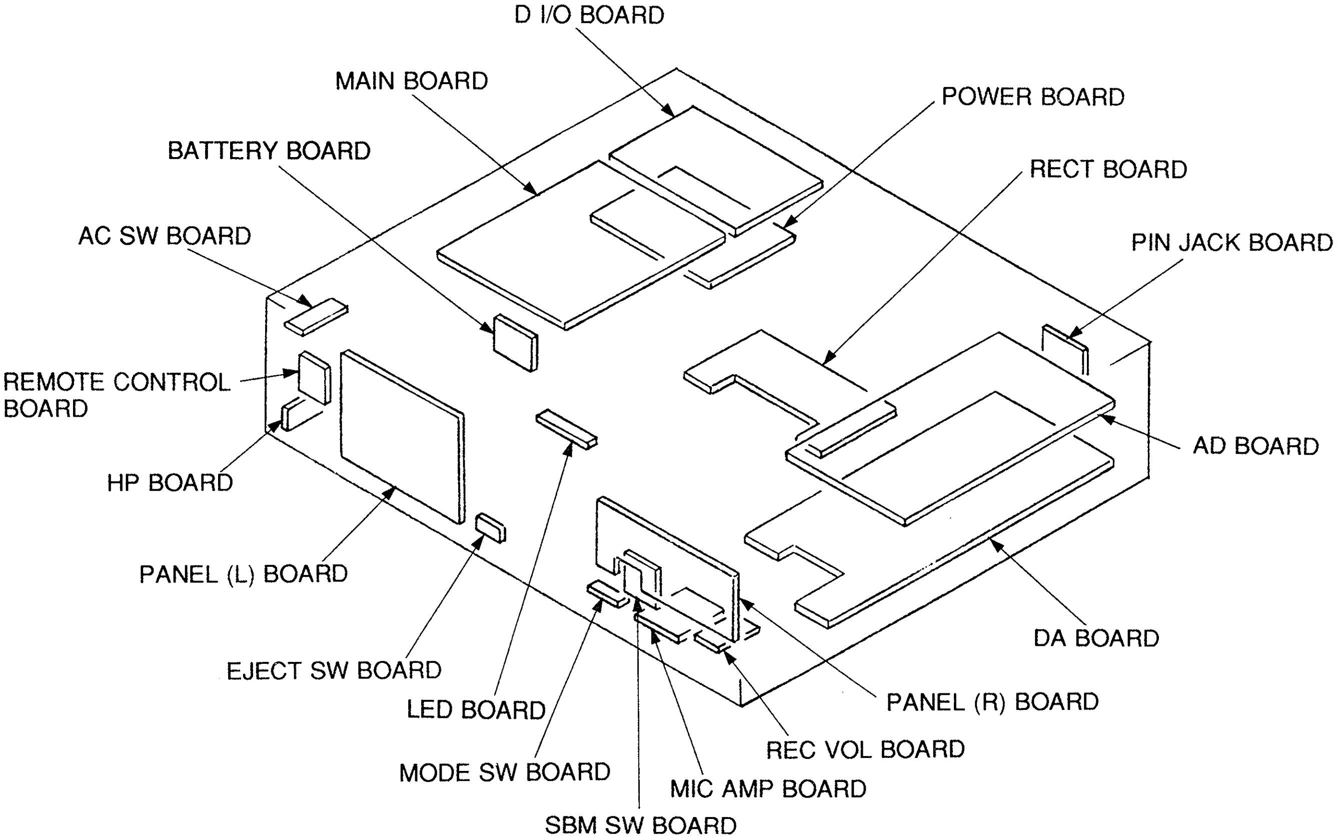

IC406
PBRFO
IC404
XTEST
SWP-M

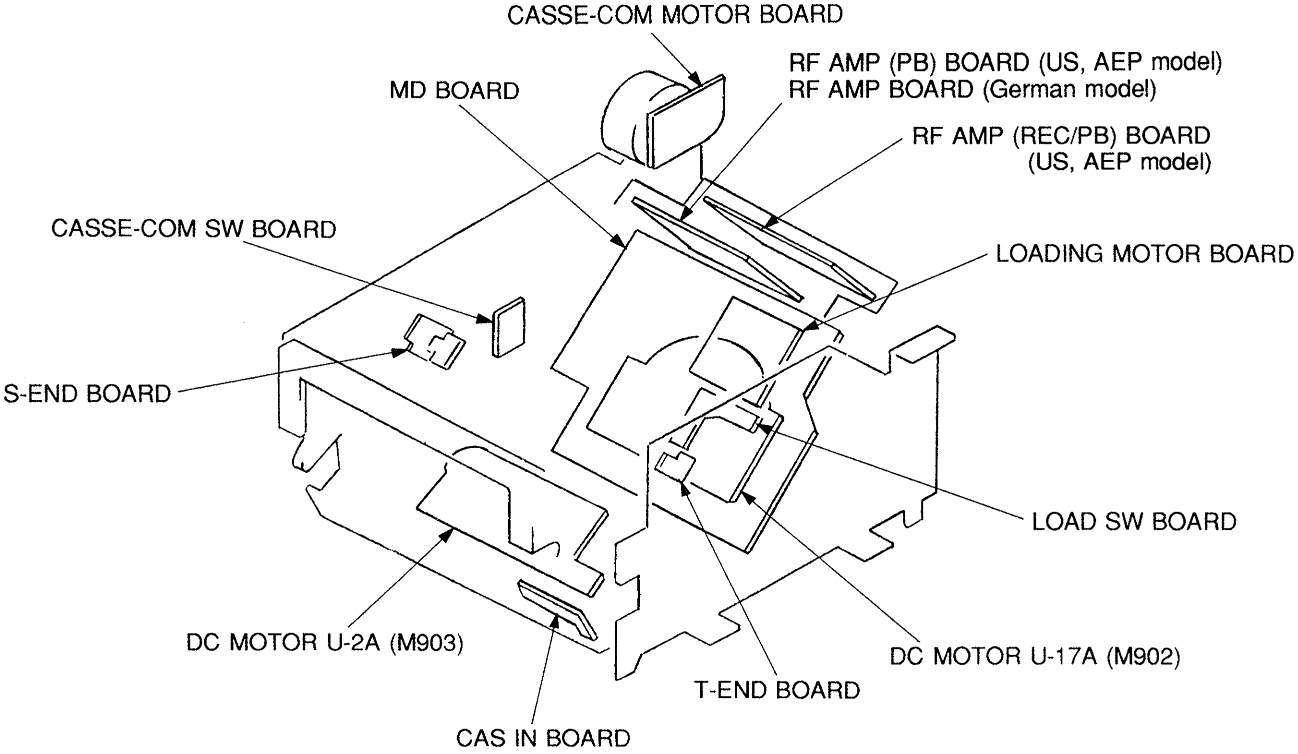
[BATTERY BOARD] — Component side —


BT601
CN608
1
4

SECTION 4
DIAGRAMS

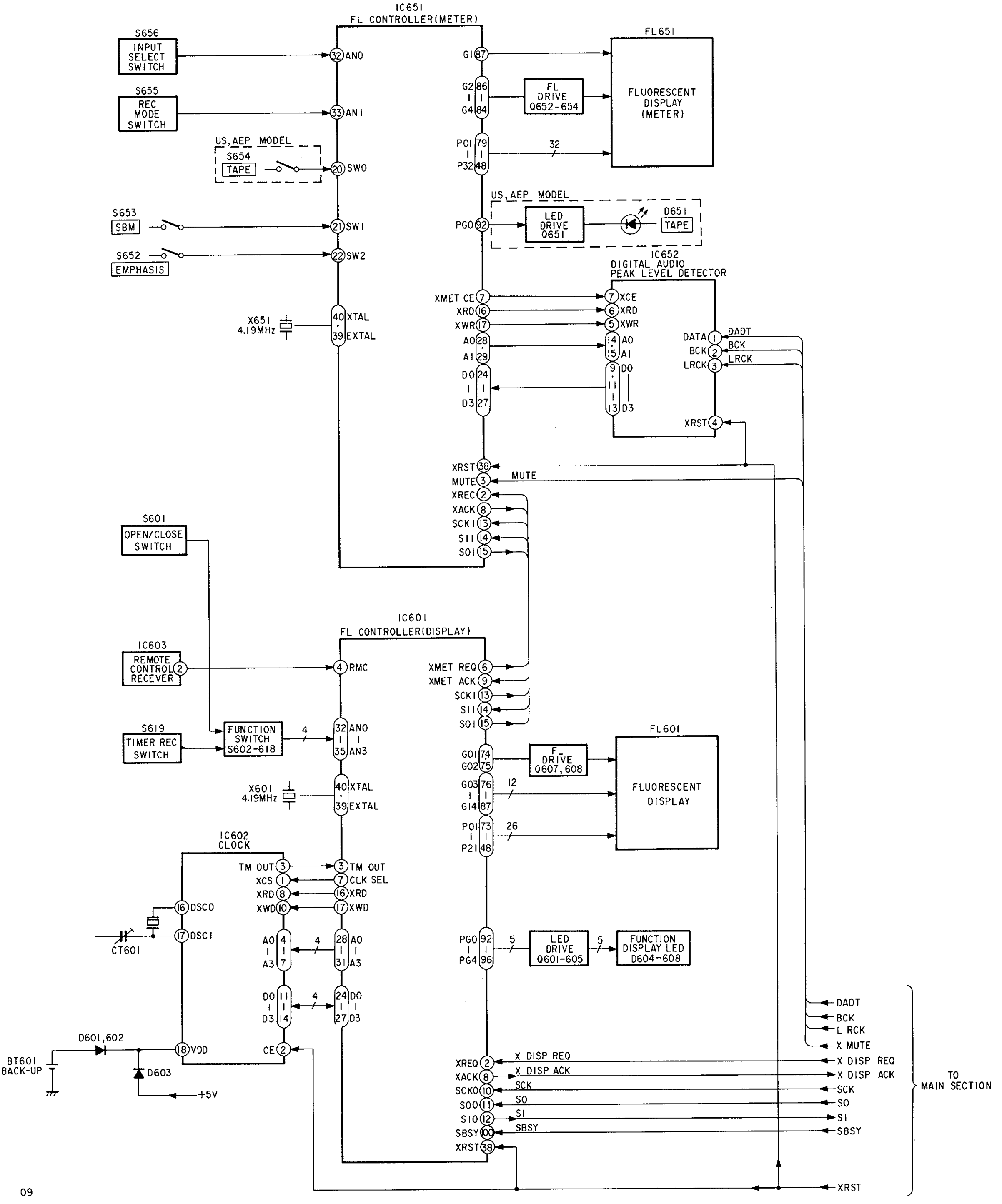
4-1. CIRCUIT BOARDS LOCATION


D I/O BOARD
MAIN BOARD
POWER BOARD
BATTERY BOARD
RECT BOARD
AC SW BOARD
PIN JACK BOARD
REMOTE CONTROL BOARD
AD BOARD
HP BOARD
PANEL (L) BOARD
DA BOARD
EJECT SW BOARD
PANEL (R) BOARD
LED BOARD
REC VOL BOARD
MODE SW BOARD
MIC AMP BOARD
SBM SW BOARD

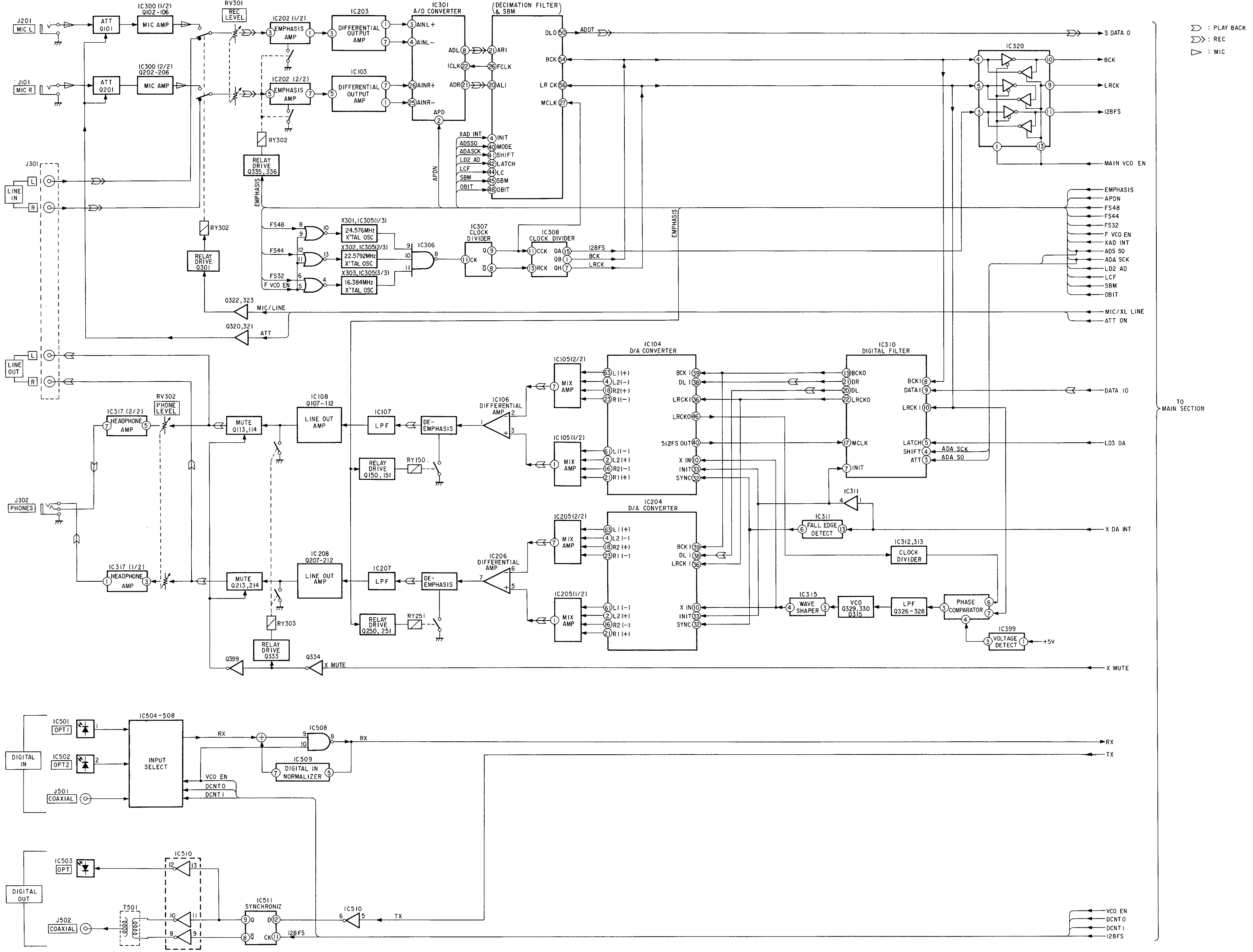

CASSE-COM MOTOR BOARD
RF AMP (PB) BOARD (US, AEP model)
RF AMP BOARD (German model)
MD BOARD
RF AMP (REC/PB) BOARD (US, AEP model)
CASSE-COM SW BOARD
LOADING MOTOR BOARD
S-END BOARD
LOAD SW BOARD
DC MOTOR U-2A (M903)
DC MOTOR U-17A (M902)
T-END BOARD
CAS IN BOARD

4-2. BLOCK DIAGRAMS

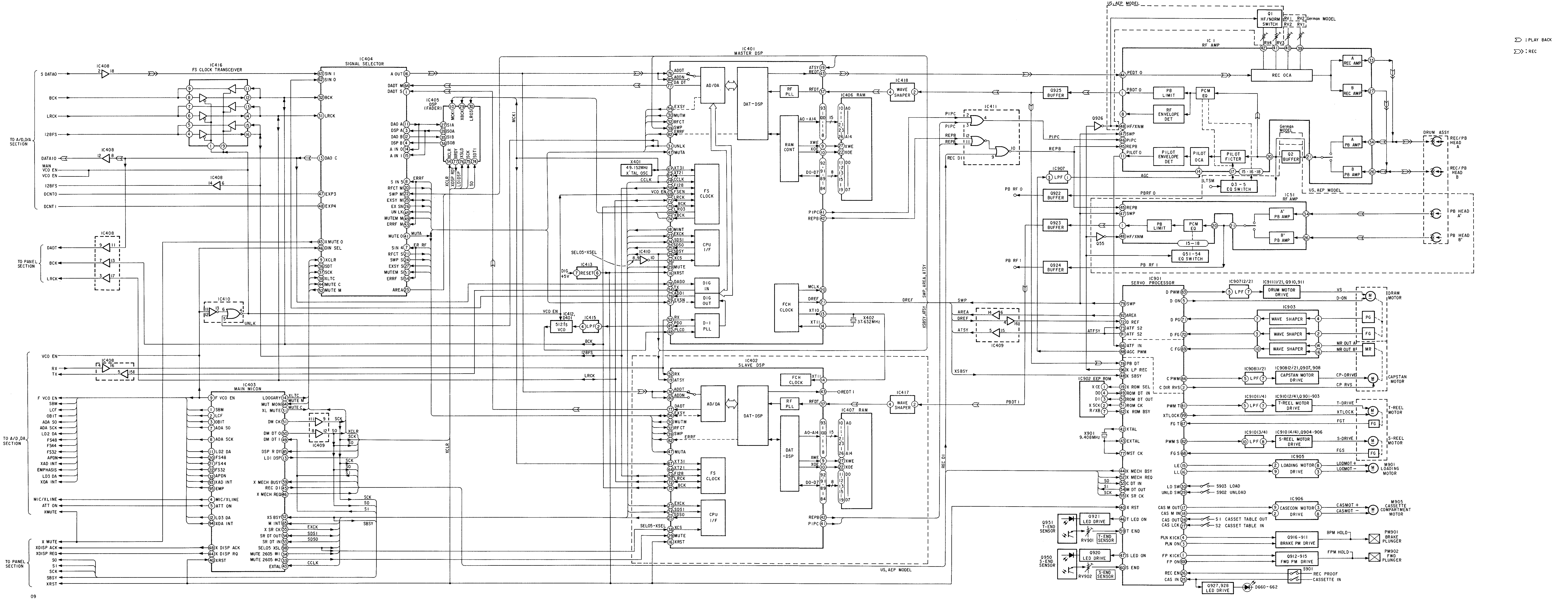
— PANEL SECTION —


IC651
FL CONTROLLER(METER)
S656 INPUT SELECT SWITCH
S655 REC MODE SWITCH
US, AEP MODEL
S654 TAPE
S653 SBM
S652 EMPHASIS
X651 4.19MHz
AN0
AN1
SW0
SW1
SW2
XTAL
EXTAL
G1
G2–G4
P01–P32
PG0
FL DRIVE Q652-654
FL651
FLUORESCENT DISPLAY (METER)
32
LED DRIVE Q651
D651 TAPE
IC652
DIGITAL AUDIO PEAK LEVEL DETECTOR
XMET CE
XRD
XWR
A0
A1
D0–D3
XCE
DATA
BCK
LRCK
XRST
DADT
XRST
MUTE
XREC
XACK
SCK1
SI1
SO1
S601 OPEN/CLOSE SWITCH
IC603 REMOTE CONTROL RECEVER
S619 TIMER REC SWITCH
FUNCTION SWITCH S602-618
4
IC601
FL CONTROLLER(DISPLAY)
RMC
AN0–AN3
X601 4.19MHz
XMET REQ
XMET ACK
G01, G02
G03–G14
P01–P21
FL DRIVE Q607, 608
FL601
FLUORESCENT DISPLAY
12
26
PG0–PG4
5
LED DRIVE Q601-605
FUNCTION DISPLAY LED D604-608
IC602
CLOCK
TM OUT
XCS
CLK SEL
XWD
DSC0
DSC1
CT601
A0–A3
VDD
CE
D601, 602
D603
BT601 BACK-UP
+5V
XREQ
XACK
SCK0
SO0
SI0
SBSY
X DISP REQ
X DISP ACK
SCK
SO
SI
L RCK
X MUTE
TO MAIN SECTION
09

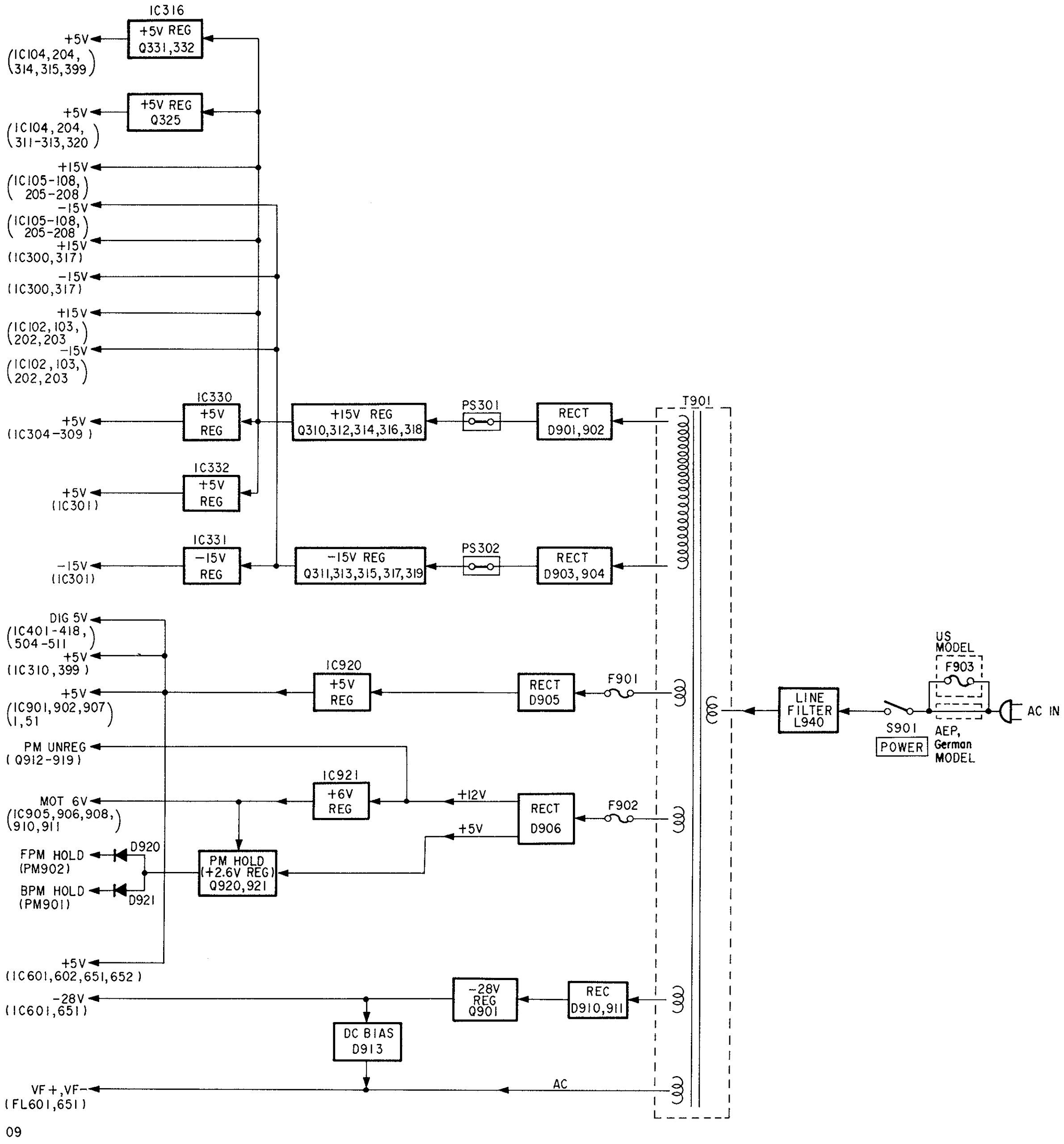
— D/A, AD SECTION —


⊳ : PLAY BACK
⊳⊳ : REC
▷ : MIC
J201 MIC L
J101 MIC R
ATT Q101
ATT Q201
IC300 (1/2) Q102-106 MIC AMP
IC300 (2/2) Q202-206 MIC AMP
RV301 REC LEVEL
IC202 (1/2) EMPHASIS AMP
IC202 (2/2) EMPHASIS AMP
IC203 DIFFERENTIAL OUTPUT AMP
IC103 DIFFERENTIAL OUTPUT AMP
IC301 A/D CONVERTER
AINL+
AINL−
AINR+
AINR−
ADL
ICLK
ADR
APD
IC309
DIGITAL FILTER
(DECIMATION FILTER & SBM)
AR1
FCLK
AL1
DL0
BCK
LR CK
MCLK
ADDT
INIT
MODE
SHIFT
LATCH
LC
SBM
OBIT
XAD INT
ADSS0
ADASCK
LD2 AD
LCF
APDN
RY302
RELAY DRIVE Q335, 336
EMPHASIS
J301
LINE IN
LINE OUT
L
R
RELAY DRIVE Q301
FS48
FS44
FS32
F VCO EN
X301, IC305(1/3) 24.576MHz X'TAL OSC
X302, IC305(2/3) 22.5792MHz X'TAL OSC
X303, IC305(3/3) 16.384MHz X'TAL OSC
IC306
IC307 CLOCK DIVIDER
IC308 CLOCK DIVIDER
CCK
RCK
QA
QB
QH
128FS
LRCK
Q322, 323
MIC/LINE
Q320, 321
ATT
IC320
S DATA 0
MAIN VCO EN
EMPHASIS
APDN
XAD INT
ADS SO
ADA SCK
LD2 AD
MIC/XL LINE
ATT ON
RV302 PHONE LEVEL
IC317 (2/2) HEADPHONE AMP
IC317 (1/2) HEADPHONE AMP
J302 PHONES
MUTE Q113, 114
MUTE Q213, 214
IC108 Q107-112 LINE OUT AMP
IC208 Q207-212 LINE OUT AMP
IC107 LPF
IC207 LPF
DE-EMPHASIS
RELAY DRIVE Q150, 151
RY150
RELAY DRIVE Q250, 251
RY251
RY303
RELAY DRIVE Q333
Q399
Q334
X MUTE
IC106 DIFFERENTIAL AMP
IC206 DIFFERENTIAL AMP
IC105(2/2) MIX AMP
IC105(1/2) MIX AMP
IC205(2/2) MIX AMP
IC205(1/2) MIX AMP
L1(+)
L2(−)
R2(+)
R1(−)
L1(−)
L2(+)
R2(−)
R1(+)
IC104 D/A CONVERTER
IC204 D/A CONVERTER
BCK I
DL I
LRCK I
LRCK0
512FS OUT
X IN
INIT
SYNC
IC310 DIGITAL FILTER
BCK0
DR
DL
LRCK0
MCLK
BCK I
DATA I
LRCK I
LATCH
SHIFT
ATT
ADA SCK
ADA SO
DATA I0
LD3 DA
IC311
IC311 FALL EDGE DETECT
X DA INT
IC312, 313 CLOCK DIVIDER
IC315 WAVE SHAPER
VCO Q329, 330 D315
LPF Q326-328
PHASE COMPARATOR
IC399 VOLTAGE DETECT
+5V
TO MAIN SECTION
DIGITAL IN
IC501 OPT1
IC502 OPT2
J501 COAXIAL
IC504-508 INPUT SELECT
RX
IC508
IC509 DIGITAL IN NORMALIZER
VCO EN
DCNT0
DCNT1
TX
DIGITAL OUT
IC503 OPT
J502 COAXIAL
T501
IC510
IC511 SYNCHRONIZ
IC510
128FS

— MAIN SECTION —

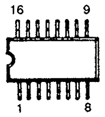

▷ : PLAY BACK
▷▷ : REC
TO A/D,D/A SECTION
TO PANEL SECTION
TO A/D,DA SECTION
TO PANEL SECTION
IC408
IC416 FS CLOCK TRANSCEIVER
IC404 SIGNAL SELECTOR
IC405 DSP (FADER)
IC410
IC403 MAIN MICON
IC409
IC401 MASTER DSP
AD/DA
DAT-DSP
RF PLL
RAM CONT
IC406 RAM
X401 49.152MHz X'TAL OSC
FS CLOCK
CPU I/F
DIG IN
DIG OUT
D-I PLL
FCH CLOCK
X402 37.632MHz
IC413 RESET
IC412, D401 512fs VCO
IC415 LPF
SEL05-XSEL
IC402 SLAVE DSP
IC407 RAM
US,AEP MODEL
IC418 WAVE SHAPER
IC417 WAVE SHAPER
IC411
IC409
Q925 BUFFER
Q922 BUFFER
Q923 BUFFER
Q924 BUFFER
IC907 LPF
Q926
Q55
IC1 RF AMP
Q1 HF/NORM SWITCH
German MODEL
REC OCA
A REC AMP
B REC AMP
PB LIMIT
PCM EQ
RF ENVELOPE DET
PILOT ENVELOPE DET
PILOT OCA
PILOT FILTER
Q2 BUFFER
Q3-5 EQ SWITCH
A PB AMP
B PB AMP
IC51 RF AMP
A' PB AMP
B' PB AMP
Q51-54 EQ SWITCH
DRUM ASSY
REC/PB HEAD A
REC/PB HEAD B
PB HEAD A'
PB HEAD B'
IC901 SERVO PROCESSOR
IC902 EEP ROM
X901 9.408MHz
IC907(2/2) LPF
IC911(1/2),Q910,911 DRUM MOTOR DRIVE
IC903 WAVE SHAPER
IC908(1/2) LPF
IC908(2/2),Q907,908 CAPSTAN MOTOR DRIVE
IC910(1/4) LPF
IC910(2/4),Q901-903 T-REEL MOTOR DRIVE
IC910(3/4) LPF
IC910(4/4),Q904-906 S-REEL MOTOR DRIVE
IC905 LOADING MOTOR DRIVE
IC906 CASECON MOTOR DRIVE
Q916-911 BRAKE PM DRIVE
Q912-915 FWD PM DRIVE
DRAM MOTOR
PG
FG
MR
CAPSTAN MOTOR
T-REEL MOTOR
S-REEL MOTOR
M901 LOADING MOTOR
M905 CASSETTE COMPARTMENT MOTOR
PM901 BRAKE PLUNGER
PM902 FWD PLUNGER
S903 LOAD
S902 UNLOAD
S1 CASSETTE TABLE OUT
S2 CASSETTE TABLE IN
S901 REC PROOF CASSETTE IN
Q951 T-END SENSOR
Q921 LED DRIVE
RV901
T-END SENSOR
Q950 S-END SENSOR
Q920 LED DRIVE
RV902
S-END SENSOR
Q927,928 LED DRIVE
D660-662
09

— POWER SECTION —


IC316
+5V REG
Q331,332
+5V
(IC104,204, 314,315,399)
+5V REG
Q325
+5V
(IC104,204, 311-313,320)
+15V
(IC105-108, 205-208)
-15V
(IC105-108, 205-208)
+15V
(IC300,317)
-15V
(IC300,317)
+15V
(IC102,103, 202,203)
-15V
(IC102,103, 202,203)
IC330
+5V
REG
+5V
(IC304-309)
+15V REG
Q310,312,314,316,318
PS301
RECT
D901,902
T901
IC332
+5V
REG
+5V
(IC301)
IC331
-15V
REG
-15V
(IC301)
-15V REG
Q311,313,315,317,319
PS302
RECT
D903,904
DIG 5V
(IC401-418, 504-511)
+5V
(IC310,399)
+5V
(IC901,902,907 1,51)
IC920
+5V
REG
RECT
D905
F901
LINE
FILTER
L940
S901
POWER
US
MODEL
F903
AEP,
German
MODEL
AC IN
PM UNREG
(Q912-919)
IC921
+6V
REG
+12V
RECT
D906
F902
+5V
MOT 6V
(IC905,906,908, 910,911)
FPM HOLD
(PM902)
D920
BPM HOLD
(PM901)
D921
PM HOLD
(+2.6V REG)
Q920,921
+5V
(IC601,602,651,652)
-28V
(IC601,651)
-28V
REG
Q901
REC
D910,911
DC BIAS
D913
VF+,VF-
(FL601,651)
AC
09

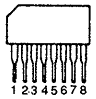
4-3. SEMICONDUCTOR LEAD LAYOUTS

CX20115A
MSM6338MS-K
SN74HC163ANS

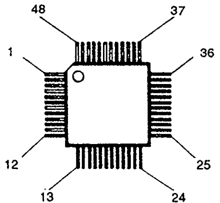


(TOP VIEW)

CX23065A

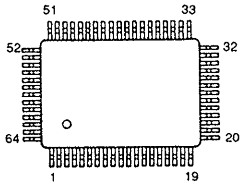


CXA1364R


48
37
1
36
12
25
13
24

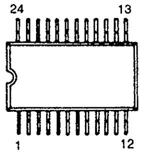
(TOP VIEW)

CXD2562Q
CXD8484Q


51
33
52
32
64
20
1
19

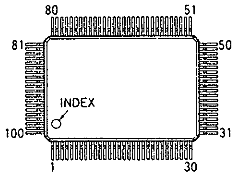
(TOP VIEW)

CXD2567M



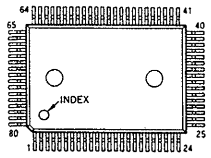
(TOP VIEW)

CXD2605Q
CXP82220-009Q
CXP82220-014Q
CXP87532-007Q
CXP87532-006Q


80
51
81
50
INDEX
100
31
1
30

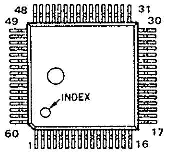
(TOP VIEW)

CXD2704Q


64
41
65
40
INDEX
80
25
1
24

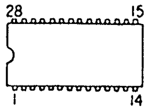
(TOP VIEW)

CXD8482Q


48
31
49
30
INDEX
60
17
1
16

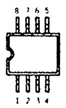
(TOP VIEW)

CXD8493P



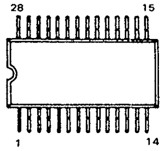
(TOP VIEW)

CXK1024M-ME
LM358PS
M51953BFP
TC7W00F



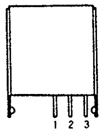
(TOP VIEW)

CXK58257AM-10LL



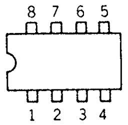
(TOP VIEW)

GP1U50XB



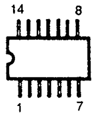
1 Vout
2 Vcc
3 GND

LF412CN/SL161841
M5238P
NE5532P
NJM4560D-D
UPC358C



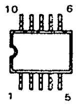
(Top view)

LM324NS
SN74HC02ANS
SN74HC10ANS
TC74HC242AF



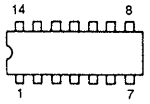
(TOP VIEW)

M54641FP



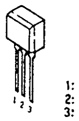
(TOP VIEW)

MC74HC74AN
SN74HC00AN
SN74HC10AN
SN74HCU04AN
SN74HCU04ANS



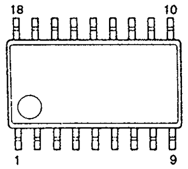
(TOP VIEW)

PST572E



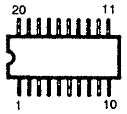
1: Vcc
2: GND
3: OUT PUT

RF5C62



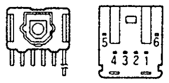
(TOP VIEW)

SN74HC74ANS
SN74HC241ANS
SN74HC244ANS



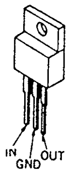
(TOP VIEW)

T0RX176
T0TX176

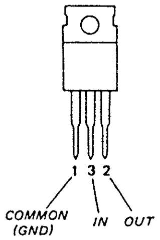


1. OUT PUT		1. GND
2. GND1		2. LED • R
3. Vcc	Or	3. Vcc
4. GND2		4. IN
5. CASE		5. NC
6. CASE		6. NC

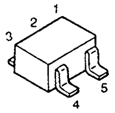
TA7805S
UPC2405HF
UPC206HF



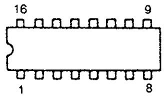
TA79005S


1 3 2
COMMON
(GND)
IN
OUT

TC7SU04F

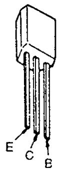


TC74HC590AF

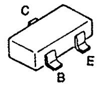


(TOP VIEW)

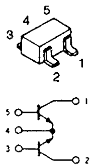
DTA114ES
DTC114ES
2SC2603-EF



DTC144EK
RN1305
2SA1162-G
2SA1510
2SC1623-L5L6

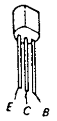


FMW2

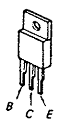

5
4
3
1
2
5
4
3
1
2

1 Tr1 :Collector 1
2 Tr2 :Collector 2
3 Tr2 :Base 2
4 Tr1,2 :Emitter
5 Tr1 :Base 1

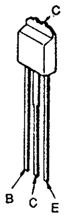
2SA1371
2SC3468-E
2SC1845-FA



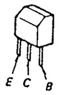
2SA985A-QP
2SC2275-P
2SD2012



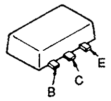
2SB1202FAST



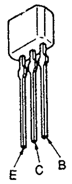
2SB734-34



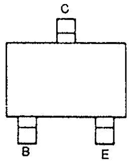
2SB798-DL
2SB1121-ST
2SD1621-ST-TC



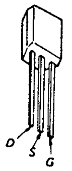
2SC3623A-K



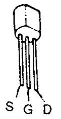
2SC4398



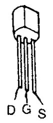
2SK241-GR



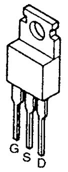
2SK246-GR1



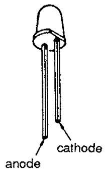
2SK369-GR



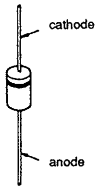
2SJ76
2SK213



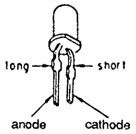
AA3432S


anode
cathode

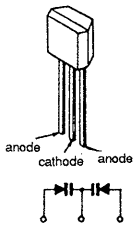
EQB01-08Q
30DF2


cathode
anode

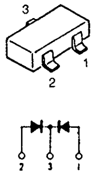
GL3PR8
LN0141C(Q)-3-LF
SEL2510W-D


long
short
anode
cathode

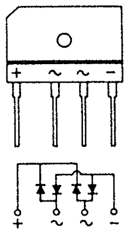
KV1260


anode
cathode
anode

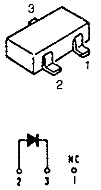
KV1550TL00



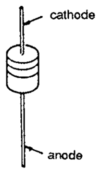
RBA-406B



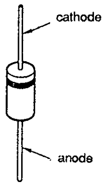
RD3.3M-B2
RD3.9M-B2



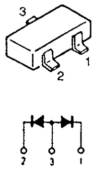
RD4.7JS-B2
RD5.1JS-B2
UZL-27H
UZP-5.6BB


cathode
anode

10E2N
1N4148M
1SS106


cathode
anode

1S2836

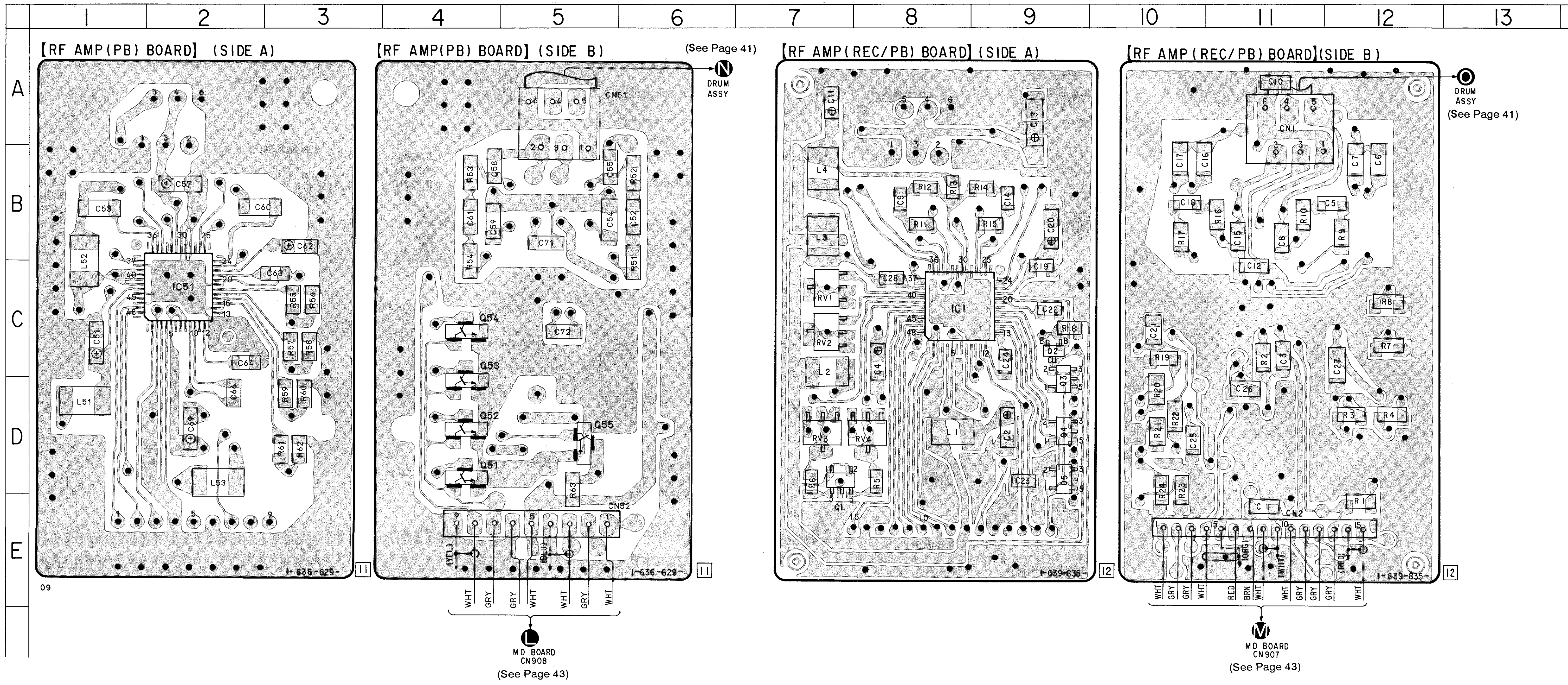


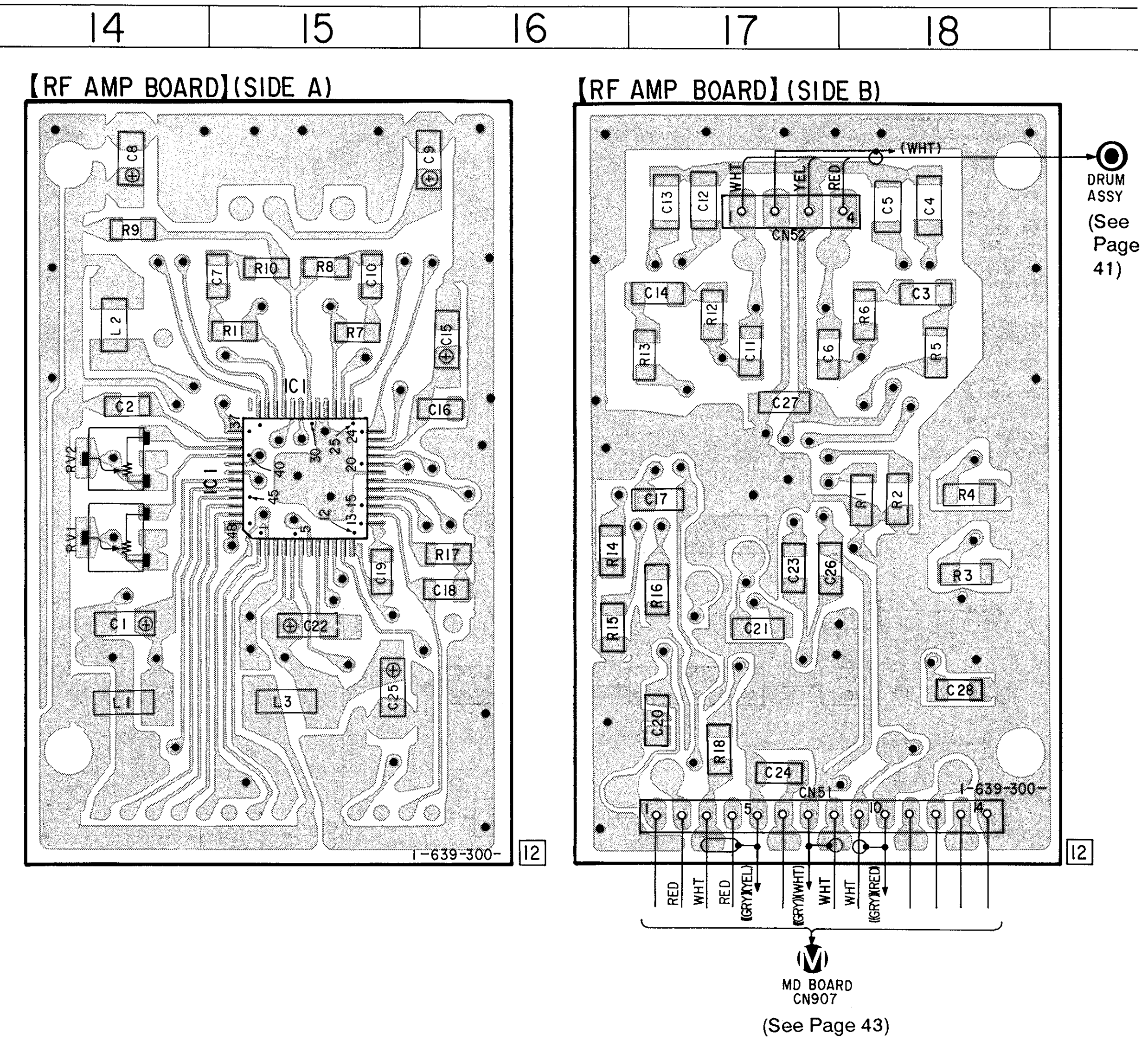
4-4. PRINTED WIRING BOARD
— RF (US, AEP MODEL) SECTION —

- See page 20 for Circuit Boards Location.
- See page 28 for Semiconductor Lead Layouts.

PRINTED WIRING BOARD
— RF (German MODEL) SECTION —

- See page 20 for Circuit Boards Location.
- See page 28 for Semiconductor Lead Layouts.


1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E
【RF AMP(PB) BOARD】 (SIDE A)
【RF AMP(PB) BOARD】 (SIDE B)
【RF AMP(REC/PB) BOARD】 (SIDE A)
【RF AMP(REC/PB) BOARD】 (SIDE B)
IC51
IC1
Q51 Q52 Q53 Q54 Q55
Q1 Q2 Q3 Q4 Q5
CN51
CN52
CN1
CN2
(See Page 41)
N DRUM ASSY
O DRUM ASSY
(See Page 41)
1-636-629-
1-639-835-
L MD BOARD CN908
(See Page 43)
M MD BOARD CN907
(See Page 43)
WHT GRY GRY WHT WHT GRY WHT
WHT GRY GRY WHT RED BRN WHT WHT GRY GRY GRY WHT

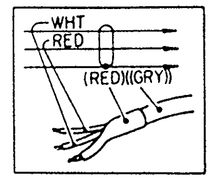

14 15 16 17 18
【RF AMP BOARD】(SIDE A)
【RF AMP BOARD】(SIDE B)
IC1
CN51
CN52
(WHT)
O DRUM ASSY
(See Page 41)
1-639-300-
RED WHT RED (GRY)(YEL) (GRY)(WHT) WHT WHT (GRY)(WHT)
M MD BOARD CN907
(See Page 43)

- **Semiconductor Location**

Ref. No.	Location
IC1	C-8
IC51	C-2
Q1	E-7
Q2	C-9
Q3	D-9
Q4	D-9
Q5	D-9
Q51	D-4
Q52	D-4
A53	C-4
Q54	C-4
Q55	D-5

Note:
- o——— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which enable seeing.
(The other layer's patterns are not indicated.)

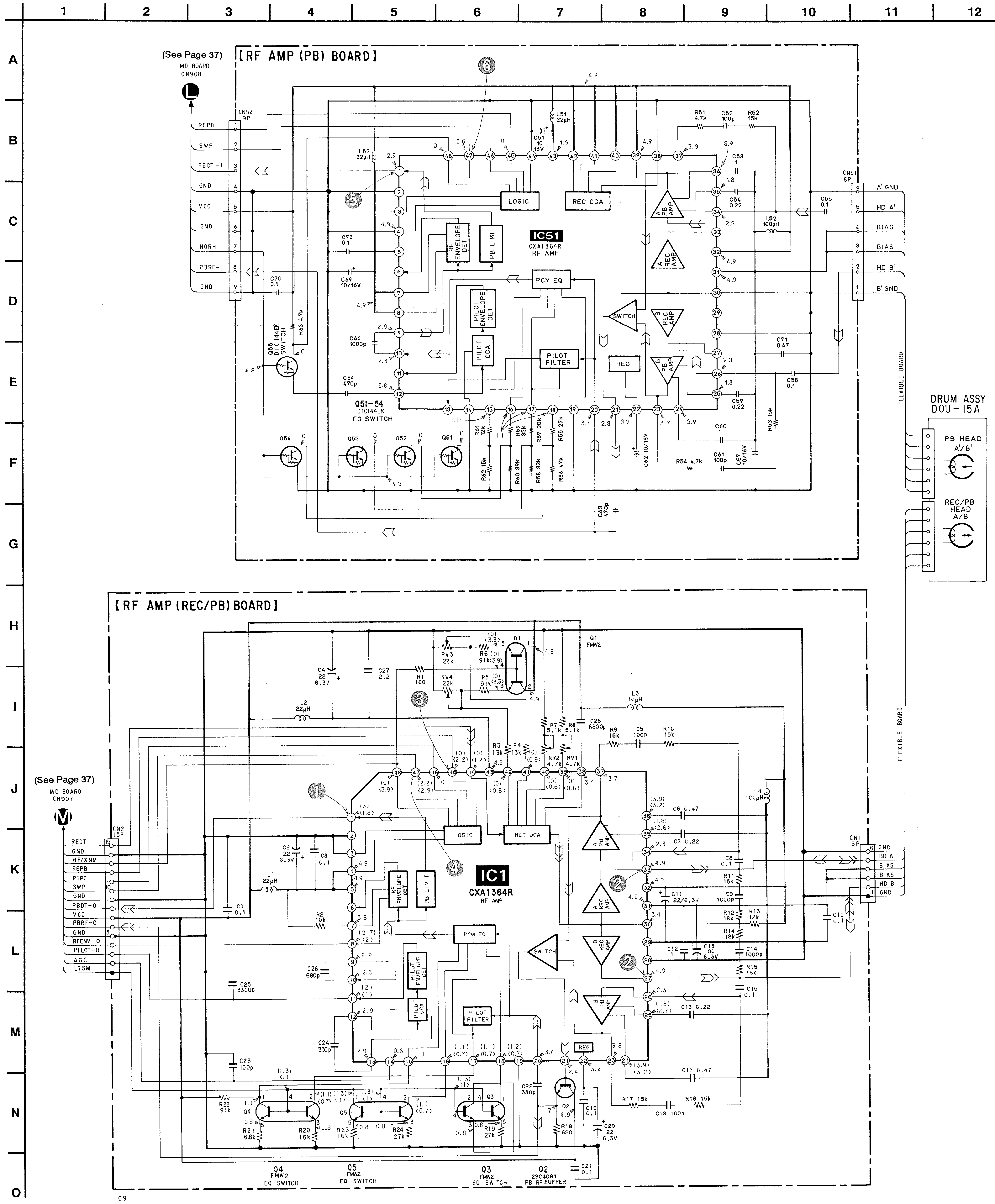
NOTE FOR MOUNTING DIAGRAM
- Color code of sleeving over the and of the jacket.


WHT
RED
(RED)((GRY))

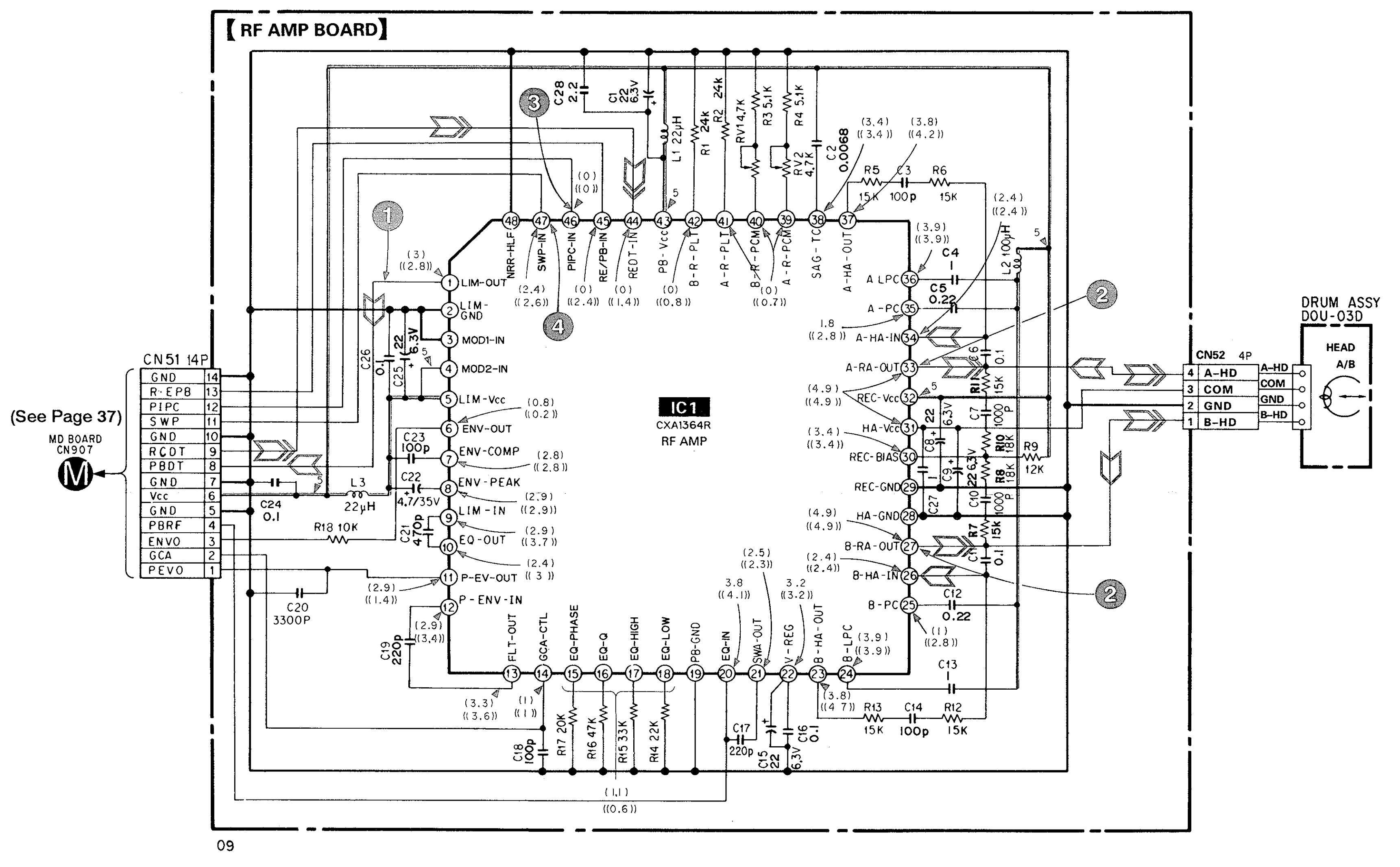
- **Connection of CN51 and CN907**

RF AMP BOARD	MD BOARD
CN51 PIN No.	CN907 PIN No.
1	13
2	14
3	12
4	10
5	11
6	9
7	7
8	8
9	1
10	NC
11	6
12	5
13	4
14	2

4-5. SCHEMATIC DIAGRAM
— RF (US, AEP MODEL) SECTION —


(See Page 37)
MD BOARD CN908
L
[RF AMP (PB) BOARD]
IC51
CXA1364R
RF AMP
LOGIC
REC OCA
PCM EQ
PILOT FILTER
REG
SWITCH
Q51-54
DTC144EK
EQ SWITCH
Q55
DTC144EK
SWITCH
CN52 9P
REPB
SWP
PBDT-I
GND
VCC
GND
NORH
PBRF-I
GND
CN51 6P
A' GND
HD A'
BIAS
BIAS
HD B'
B' GND
FLEXIBLE BOARD
DRUM ASSY
DOU-15A
PB HEAD
A'/B'
REC/PB HEAD
A/B
(See Page 37)
MD BOARD CN907
M
[RF AMP (REC/PB) BOARD]
IC1
CXA1364R
RF AMP
CN2 15P
REDT
GND
HF/XNM
REPB
PIPC
SWP
GND
PBDT-O
VCC
PBRF-O
GND
RFENV-O
PILOT-O
AGC
LTSM
CN1 6P
GND
HD A
BIAS
BIAS
HD B
GND
Q1
FMW2
Q4
FMW2
EQ SWITCH
Q5
FMW2
EQ SWITCH
Q3
FMW2
EQ SWITCH
Q2
2SC4081
PB RF BUFFER
09

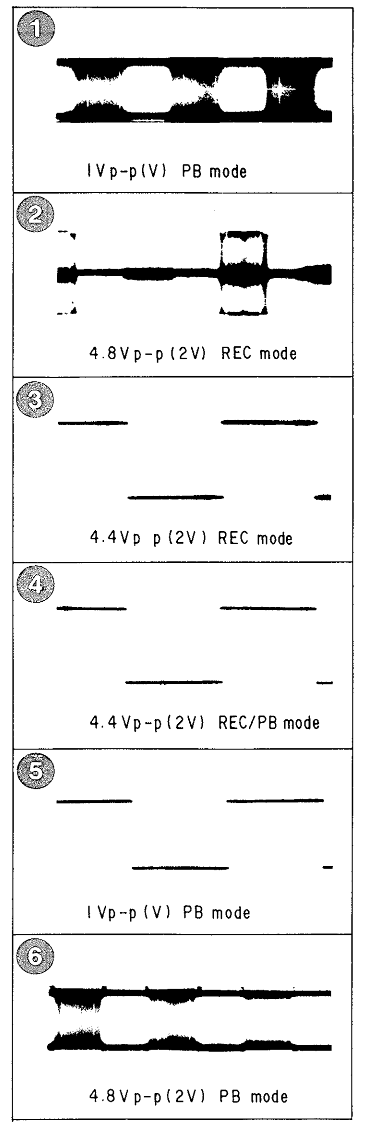
SCHEMATIC DIAGRAM
— RF (German MODEL) SECTION —


[RF AMP BOARD]
IC1
CXA1364R
RF AMP
(See Page 37)
MD BOARD CN907
M
CN51 14P
GND
R-EPB
PIPC
SWP
GND
PBDT
RCDT
GND
Vcc
GND
PBRF
ENVO
GCA
PEVO
CN52 4P
A-HD
COM
GND
B-HD
DRUM ASSY
DOU-03D
HEAD
A/B
09

- **Connection of CN907 and CN51**

MD BOARD CN907 PIN No.	RF AMP BOARD CN51 PIN No.
2	14
4	13
5	12
6	11
NC	10
1	9
8	8
7	7
9	6
11	5
10	4
12	3
14	2
13	1

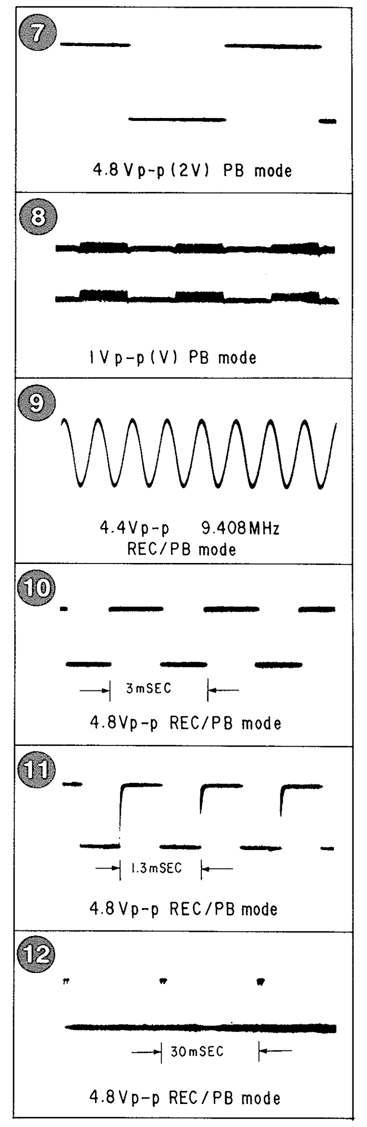
- **Waveforms.**



Note:

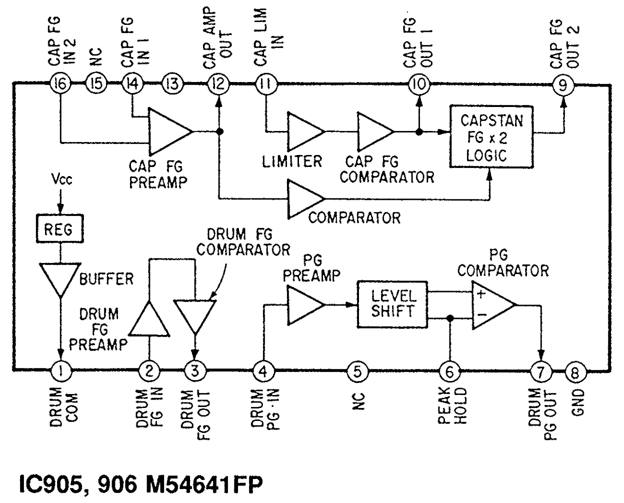
- All capacitors are in µF unless otherwise noted. pF:µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- ▬: B+ Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : REC/PB
  ( ) : PB
  < >, (( )) : REC
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⊳ : PB
  ⊳⊳ : REC

- **Waveforms.**

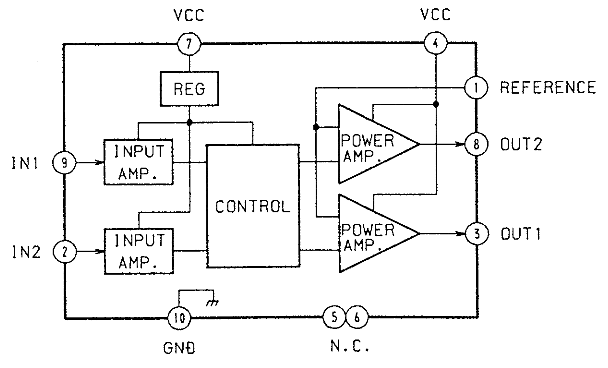


- **IC Block Diagrams.**

IC903 CX20115A


CAP FG IN 2
NC
CAP FG IN 1
CAP AMP OUT
CAP LIM IN
CAP FG OUT 1
CAP FG OUT 2
CAP FG PREAMP
LIMITER
CAP FG COMPARATOR
CAPSTAN FG x 2 LOGIC
COMPARATOR
Vcc
REG
DRUM FG COMPARATOR
BUFFER
DRUM FG PREAMP
PG PREAMP
LEVEL SHIFT
PG COMPARATOR
DRUM COM
DRUM FG IN
DRUM FG OUT
DRUM PG IN
NC
PEAK HOLD
DRUM PG OUT
GND

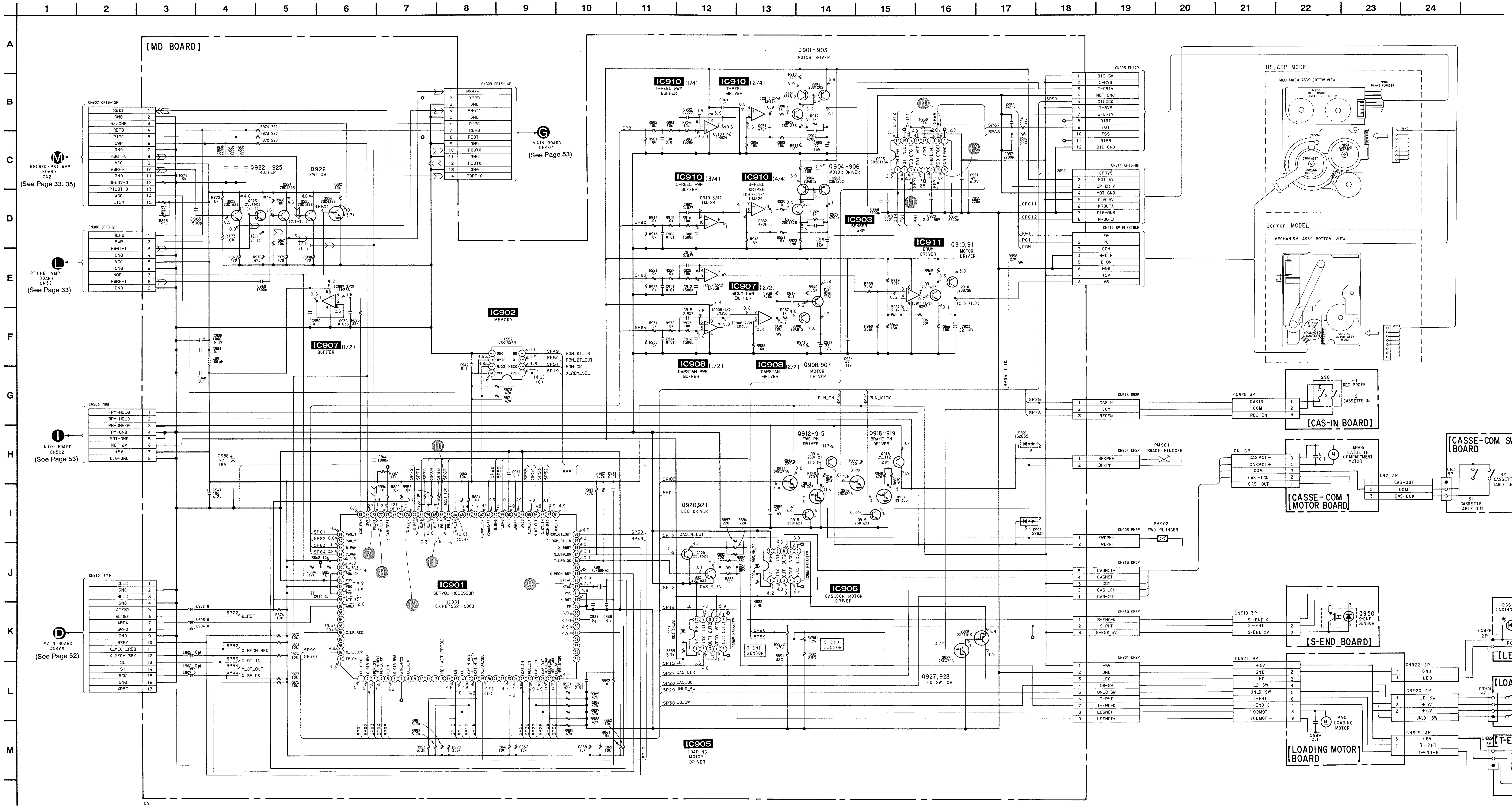
IC905, 906 M54641FP


VCC
VCC
REG
REFERENCE
OUT2
INPUT AMP.
CONTROL
POWER AMP
IN1
IN2
INPUT AMP.
POWER AMP
OUT1
GND
N.C.

Note:

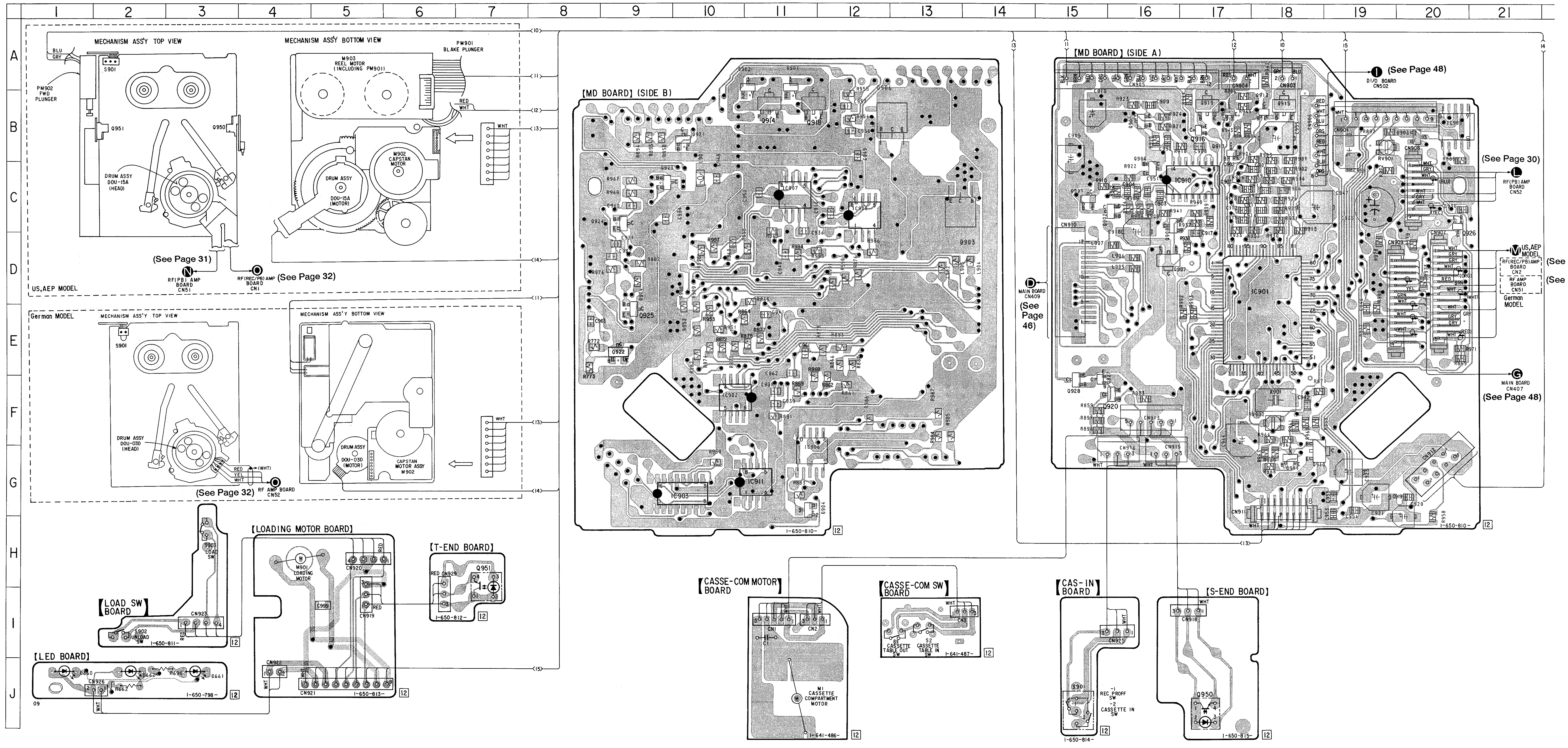
- All capacitors are in µF unless otherwise noted. pF:µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- ▬ : B+ Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  - no mark : REC/PB
  - ( ) : REC
  - < > : PB
  - ⁎ : can not be measured.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⊐> : PB
  - ⊐>> : REC

4-6. SCHEMATIC DIAGRAM
— MD SECTION —
- See page 97 for IC Pin Functions.


[MD BOARD]
RF(REC/PB) AMP BOARD CN2
(See Page 33, 35)
RF(PB) AMP BOARD CN52
(See Page 33)
D/O BOARD CN502
(See Page 53)
MAIN BOARD CN409
(See Page 52)
MAIN BOARD CN407
(See Page 53)
IC901 SERVO PROCESSOR CXP87532-006Q
IC902 MEMORY
IC903 SENSER AMP
IC905 LOADING MOTOR DRIVER
IC906 CASECON MOTOR DRIVER
IC907 (1/2) BUFFER
IC907 (2/2) DRUM PWM BUFFER
IC908 (1/2) CAPSTAN PWM BUFFER
IC908 (2/2) CAPSTAN DRIVER
IC910 (1/4) T-REEL PWM BUFFER
IC910 (2/4) T-REEL DRIVER
IC910 (3/4) S-REEL PWM BUFFER
IC910 (4/4) S-REEL DRIVER
IC911 DRUM DRIVER
Q901-903 MOTOR DRIVER
Q904-906 MOTOR DRIVER
Q908,907 MOTOR DRIVER
Q910,911 MOTOR DRIVER
Q912-915 FWD PM DRIVER
Q916-919 BRAKE PM DRIVER
Q920,921 LED DRIVER
Q922-925 BUFFER
Q926 SWITCH
Q927,928 LED SWITCH
US, AEP MODEL
German MODEL
[CAS-IN BOARD]
[CASSE-COM SW] BOARD
[CASSE-COM MOTOR BOARD]
[S-END BOARD]
[LED BOARD]
[LOAD SW BOARD]
[T-END BOARD]
[LOADING MOTOR] BOARD
PM901 BRAKE PLUNGER
PM902 FWD PLUNGER
M905 CASSETTE COMPARTMENT MOTOR
M901 LOADING MOTOR
Q950 S-END SENSOR
Q951 T-END SENSOR
S901 REC PROOF / CASSETTE IN
S2 CASSETTE TABLE IN
S1 CASSETTE TABLE OUT
S903 LOAD
S902 UNLOAD
T END SENSOR
S END SENSOR
X901 9.408MHz
⑦ ⑧ ⑨ ⑩ ⑪ ⑫

4-7. PRINTED WIRING BOARD
— MD SECTION —

- See page 20 for Circuit Boards Location.
- See page 28 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
A
B
C
D
E
F
G
H
I
J
MECHANISM ASS'Y TOP VIEW
MECHANISM ASS'Y BOTTOM VIEW
PM902 FWD PLUNGER
PM901 BLAKE PLUNGER
M903 REEL MOTOR (INCLUDING PM901)
S901
Q951
Q950
DRUM ASSY DOU-15A (HEAD)
DRUM ASSY DOU-15A (MOTOR)
M902 CAPSTAN MOTOR
(See Page 31)
RF(PB) AMP BOARD CN51
RF(REC/PB) AMP BOARD CN1
(See Page 32)
US,AEP MODEL
German MODEL
DRUM ASSY DOU-03D (HEAD)
DRUM ASSY DOU-03D (MOTOR)
CAPSTAN MOTOR ASSY M902
RF AMP BOARD CN52
[MD BOARD] (SIDE B)
[MD BOARD] (SIDE A)
IC903
IC911
IC901
IC910
(See Page 48)
D/O BOARD CN502
(See Page 30)
RF(PB) AMP BOARD CN52
US,AEP MODEL
RF(REC/PB) AMP BOARD CN2
RF AMP BOARD CN51
German MODEL
(See Page 31)
(See Page 32)
MAIN BOARD CN606
(See Page 46)
MAIN BOARD CN407
(See Page 48)
1-650-810-
1-650-810-
[LOADING MOTOR BOARD]
M901 LOADING MOTOR
[T-END BOARD]
[LOAD SW] BOARD
S902 LOAD SW
1-650-811-
[LED BOARD]
1-650-798-
1-650-813-
1-650-812-
[CASSE-COM MOTOR] BOARD
M1 CASSETTE COMPARTMENT MOTOR
1-641-486-
[CASSE-COM SW] BOARD
S2 CASSETTE TABLE SW
CASSETTE TABLE IN SW
1-641-487-
[CAS-IN] BOARD
REC PROOF SW
CASSETTE IN SW
1-650-814-
[S-END BOARD]
Q950
1-650-815-

• Semiconductor Location

Ref. No.	Location
D660	J-1
D661	J-3
D662	J-2
D901	A-11
D902	A-11
D903	B-20
D904	G-12
IC901	D-18
IC902	F-10
IC903	G-10
IC905	B-20
IC906	G-12
IC907	C-11
IC908	C-12
IC910	C-17
IC911	G-11
Q901	C-15
Q902	C-16
Q903	C-14
Q904	C-16
Q905	B-16
Q906	B-13
Q907	D-17
Q908	D-16
Q910	G-19
Q911	G-18
Q912	B-18
Q913	B-17
Q914	B-11
Q915	B-18
Q916	B-17
Q917	B-17
Q918	B-12
Q919	B-17
Q920	F-16
Q921	B-10
Q922	E-9
Q923	C-10
Q924	C-9
Q925	E-9
Q926	C-20
Q927	F-16
Q928	F-15
Q950	J-17
Q951	H-7

• Connection of CN907 and CN51

MD BOARD CN907 PIN No.	RF AMP BOARD CN51 PIN No.
1	9
2	14
3	NC
4	13
5	12
6	11
7	7
8	8
9	6
10	4
11	5
12	3
13	1
14	2
15	NC

Note:

- o—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern from the side which enable seeing.
  (The other layer's patterns are not indicated.)
- ░ : Pattern of the rear side.

4-8. PRINTED WIRING BOARD
— MAIN SECTION —

- **See page 20 for Circuit Boards Location.**
- **See page 28 for Semiconductor Lead Layouts.**

• Semiconductor Location

Ref. No.	Location
D401	D-14
IC401	D-16
• IC402	D-6
IC403	G-15
IC405	G-4
IC406	B-17
• IC407	C-8
IC408	F-6
IC409	G-9
IC410	B-8
IC411	C-4
IC412	E-14
IC413	B-19
IC415	D-14
IC416	F-13
• IC417	C-4
IC418	C-14
IC501	C-27
IC502	D-27
IC503	F-27
IC504	C-25
IC505	D-25
IC506	B-25
IC507	B-24
IC508	C-24
IC509	D-24
IC510	F-25
IC511	F-24

• Not mounted in German model.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
A B C D E F G H I
[MAIN BOARD] (B SIDE)
[MAIN BOARD] (A SIDE)
[DI/O BOARD]
US,AEP MODEL
German MODEL
B
DA BOARD
CN311
(See Page 63)
CHASSIS
C
DA BOARD
CN313
(See Page 64)
D
MD BOARD
CN910
(See Page 42)
G
MD BOARD
CN909
(See Page 43)
F
PANEL L BOARD
CN603
(See Page 73)
E
POWER BOARD
CN923
(See Page 77)
H
POWER BOARD
CN924
(See Page 77)
I
MD BOARD
CN906
(See Page 43)
DIGITAL IN
DIGITAL OUT
COAXIAL
OPT1
1-650-809-
1-650-801-
12

Note:

- o—— : parts extracted from the component side.
- ● : Through hole.
- △ : internal component.
- ▨ : Pattern on the side which enable seeing. (The other layer's patterns are not indicated.)
- ▨ : Pattern of the rear side.

Note:
- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.

- ▬ : B+ Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : REC/PB
  ( ) : REC
  < > : PB
  * : can not be measured.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

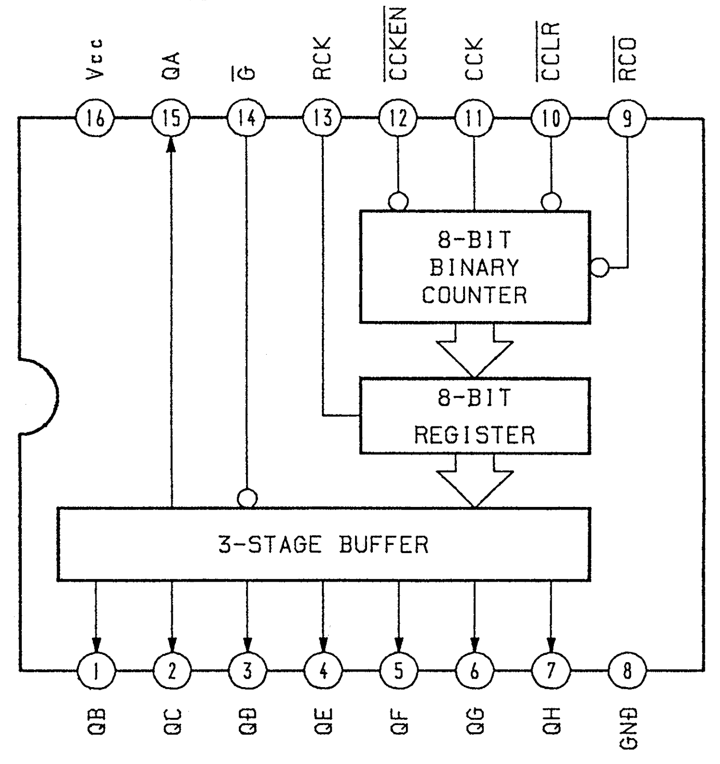
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⊳ : PB
  ⊳⊳ : REC

4-9. SCHEMATIC DIAGRAM
— MAIN SECTION —
• See page 84 for IC Pin Functions.

[MAIN BOARD]
[D I/O BOARD]
IC401 MASTER DSP
IC402 SLAVE DSP
IC403 MAIN MICON
IC404 SIGNAL SELECTOR
IC405 DSP
IC406 RAM
IC407 RAM
IC408 BUFFER
IC409 BUFFER
IC410 INVERTER
IC410 NOR GATE
IC411 SIGNAL CONTROL
IC412 PLL
IC413 RESET
IC415 INVERTER
IC416 FS CLOCK TRANSCEIVER
IC417 INVERTER
IC418 INVERTER
IC504 IC508 DIGITAL IN SELECT & CONTROL
IC509 DIGITAL IN NORMALIZER
IC510 INVERTER
IC511 CLOCK GENERATOR
DA BOARD CN313 (See Page 68)
POWER BOARD CN923 (See Page 80)
DA BOARD CN311 (See Page 68)
MD BOARD CN909 (See Page 38)
PANEL L BOARD CN603 (See Page 69)
MD BOARD CN910 (See Page 37)
MD BOARD CN906 (See Page 37)
POWER BOARD CN924 (See Page 79)
• Waveforms.
⑬ 5Vp-p 2MHz REC/PB mode
⑭ 5Vp-p 31kHz REC/PB mode
⑮ 5Vp-p 4MHz REC/PB mode
⑯ 5Vp-p(2V) REC/PB mode
⑰ 4Vp-p(V) PB mode
⑱ 5Vp-p(2V) REC mode
⑲ 6Vp-p(2V) REC mode
⑳ 0.16Vp-p(V) PB mode
㉑ 0.2Vp-p(V) PB mode
㉒ 4Vp-p(V) PB mode
㉓ 5Vp-p(2V) REC/PB mode

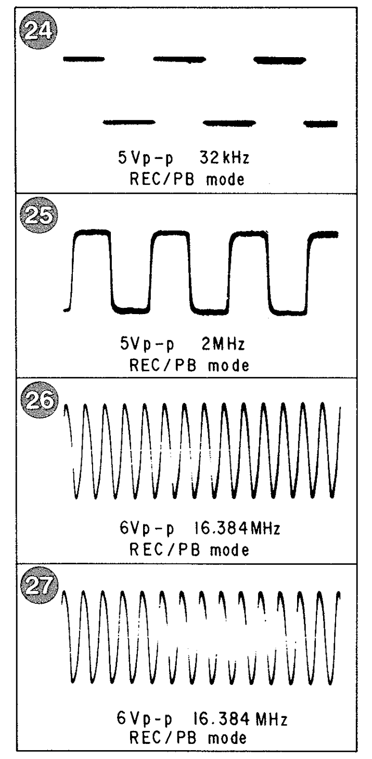
- **IC Block Diagram.**

IC308 TC74HC590


Vcc
QA
G
RCK
CCKEN
CCK
CCLR
RCO
14
15
13
12
11
10
9
8-BIT BINARY COUNTER
8-BIT REGISTER
3-STAGE BUFFER
1
2
3
4
5
6
7
8
QB
QC
QD
QE
QF
QG
QH
GND

4-10. SCHEMATIC DIAGRAM
— AUDIO SECTION —

- **Waveforms.**



[MIC AMP BOARD]
IC300 MIC AMP
Q101 ATT
Q102-106 MIC AMP
Q201 ATT
Q202-206 MIC AMP
Q301 RELAY DRIVE
J201
J101
MIC
[REC VOL BOARD]
[AD BOARD]
IC202 LINE AMP
IC102 LINE AMP
IC203 BUFFER
IC103 BUFFER
Q335,336 RELAY DRIVE
IC301 A/D CONVERTER
IC309 DIGITAL FILTER
IC330 +5V REG
IC308 BCK,LRCK GEN
IC304 – IC306 CLOCK GENERATOR
IC307 MCLK GEN
IC332 +5V REG
IC331 -5V REG
Q310,312,314, 316,318 +15V REG
Q311,313,315 317,319 -15V REG
CN305 10P
CN306 5P
CN307 4P
CN310 3P
CN318 3P
CN308 3P
CN309 3P
DIGITAL SECTION (See Page 68)
RECT BOARD CN302 (See Page 81)
A
B
C
D
E
F
G
H
I
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

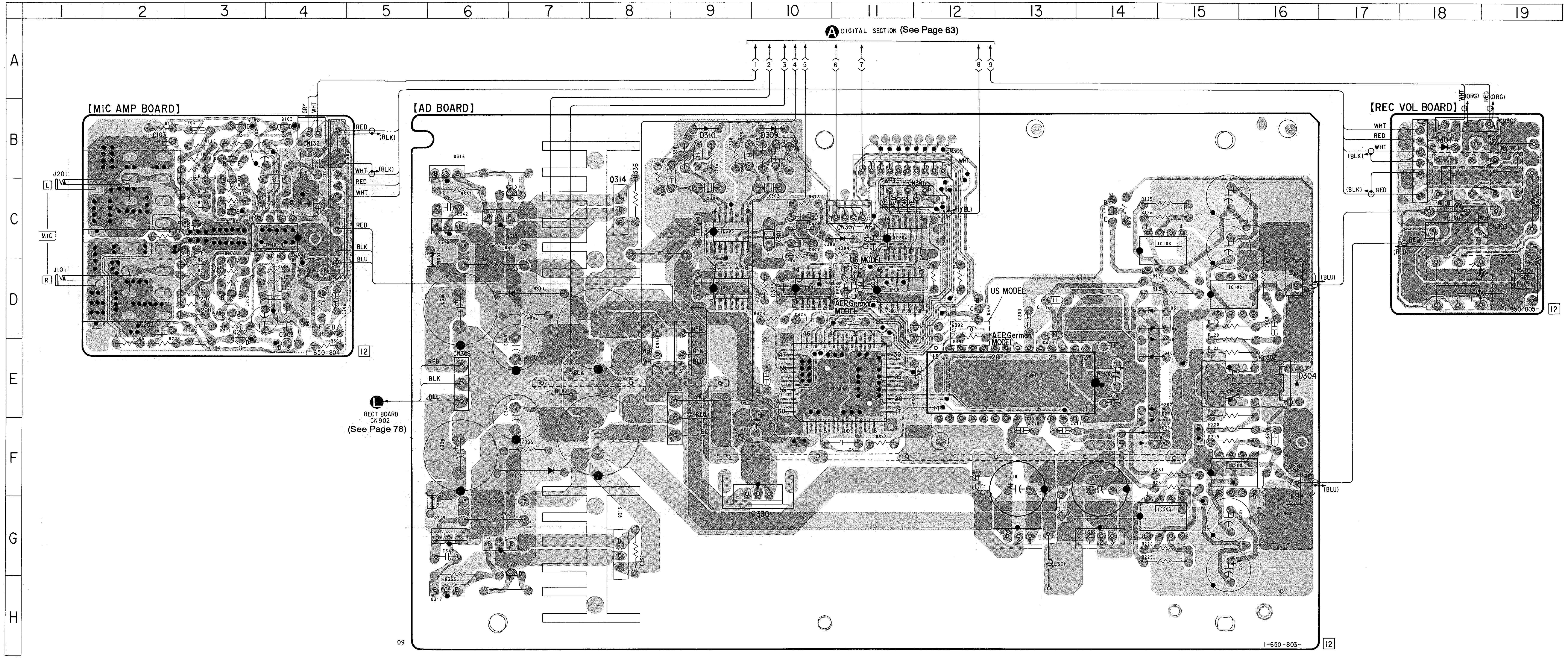
Note:
- All capacitors are in µF unless otherwise noted. pF:µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬▬▬ : B+ Line
- ▪▪▪▪▪ : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : REC/PB
  ( ) : REC
  < > : PB
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⪢ : REC
  ▷ : MIC

4-11. PRINTED WIRING BOARD
— AUDIO SECTION —

- See page 20 for Circuit Boards Location.
- See page 28 for Semiconductor Lead Layouts.


1
2
3
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6
7
8
9
10
11
12
13
14
15
16
17
18
19
A
B
C
D
E
F
G
H
Ⓐ DIGITAL SECTION (See Page 63)
【MIC AMP BOARD】
【AD BOARD】
【REC VOL BOARD】
J201
J101
L
R
MIC
Ⓛ RECT BOARD CN902 (See Page 78)
US MODEL
AEP,German MODEL
IC330
D304
D309
D310
Q314
CN308
CN201
CN101
CN132
CN302
CN303
RV301 REC LEVEL
1-650-804-
1-650-803-
1-650-805-
12
RED
BLK
BLU
WHT
YEL
GRY
ORG

• Semiconductor Location

Ref. No.	Location
D101	E-15
D102	E-15
D103	D-15
D104	D-15
D201	E-15
D202	E-15
D203	F-15
D204	F-15
D301	B-18
D304	E-16
D308	C-11
D309	B-10
D310	B-9
D311	D-7
D312	F-7
IC102	D-16
IC103	C-15
IC202	F-16
IC203	G-15
IC300	C-4
IC301	E-13
IC304	C-11
IC305	C-9
IC306	D-9
IC307	D-10
IC308	D-11
IC309	E-11
IC330	G-10
IC331	G-13
IC332	G-14
Q101	C-3
Q102	B-3
Q103	B-4
Q104	B-3
Q105	B-3
Q106	C-3
Q201	C-2
Q202	D-3
Q203	E-4
Q204	D-3
Q205	D-3
Q206	D-3
Q301	D-4
Q310	C-7
Q311	G-7
Q312	C-7
Q313	G-6
Q314	B-8
Q315	G-8
Q316	B-6
Q317	H-6
Q318	C-6
Q319	G-6
Q335	C-14
Q336	D-12

Note:

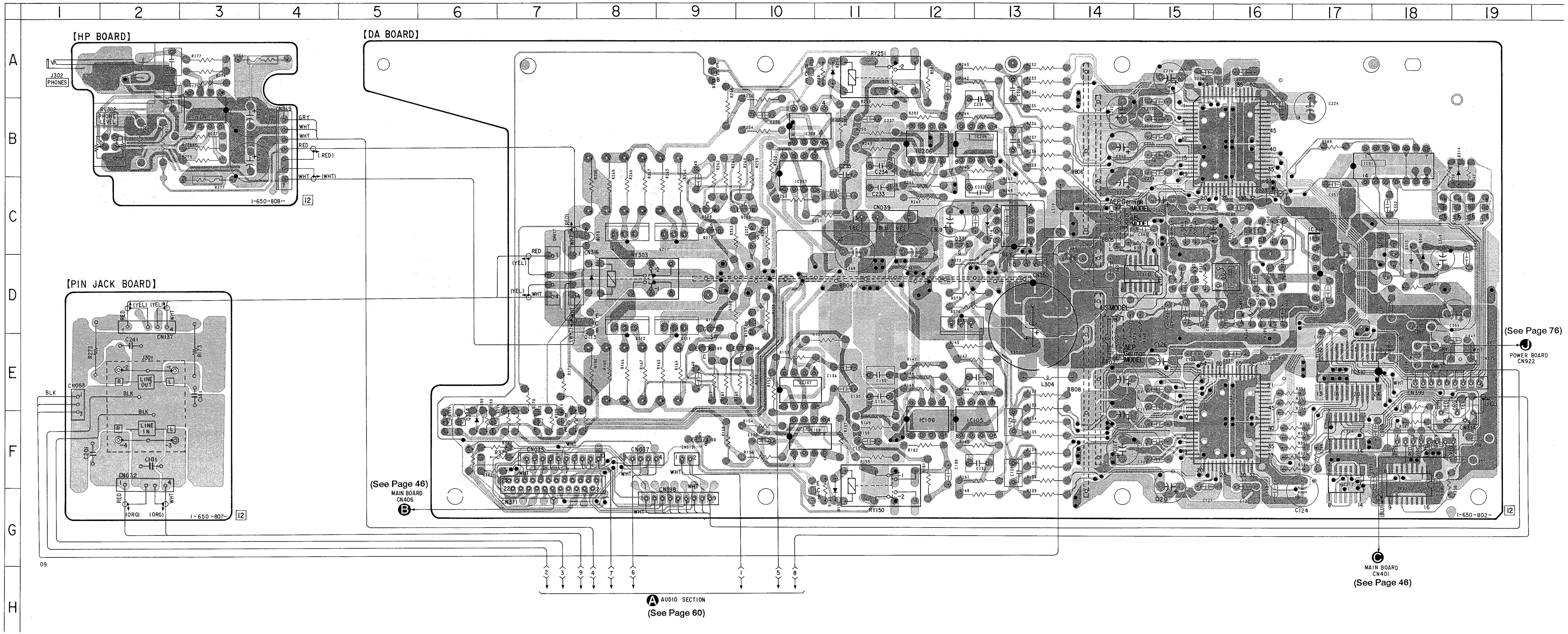
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which enable seeing.
- ░ : Pattern of the rear side.

4-12. PRINTED WIRING BOARD
— DIGITAL SECTION —

- See page 20 for Circuit Boards Location.
- See page 28 for Semiconductor Lead Layouts.

- **Semiconductor Location**

Ref. No.	Location
D150	G-11
D250	A-11
D313	C-18
D314	B-19
D315	D-16
D316	C-13
D317	E-8
D350	C-18
D390	F-6
IC104	E-16
IC105	F-12
IC106	F-12
IC107	E-10
IC108	F-10
IC204	B-16
IC205	B-13
IC206	B-12
IC207	C-10
IC208	B-10
IC310	E-17
IC311	B-18
IC312	F-17
IC313	G-18
IC314	C-17
IC315	D-15
IC316	C-13
IC317	B-3
IC320	F-17
IC399	E-18
Q107	D-10
Q108	E-10
Q109	E-9
Q110	D-9
Q111	E-9
Q112	E-8
Q113	E-8
Q114	F-7
Q150	F-9
Q151	G-10
Q207	C-10
Q208	C-10
Q209	C-9
Q210	C-9
Q211	C-9
Q212	C-8
Q213	C-8
Q214	F-6
Q250	A-9
Q251	A-10
Q320	C-19
Q321	C-19
Q322	C-19
Q323	C-18
Q325	C-18
Q326	D-16
Q327	C-16
Q328	C-16
Q329	D-15
Q330	D-15
Q331	C-12
Q332	D-12
Q333	F-7
Q334	F-6
Q399	F-6



1
2
3
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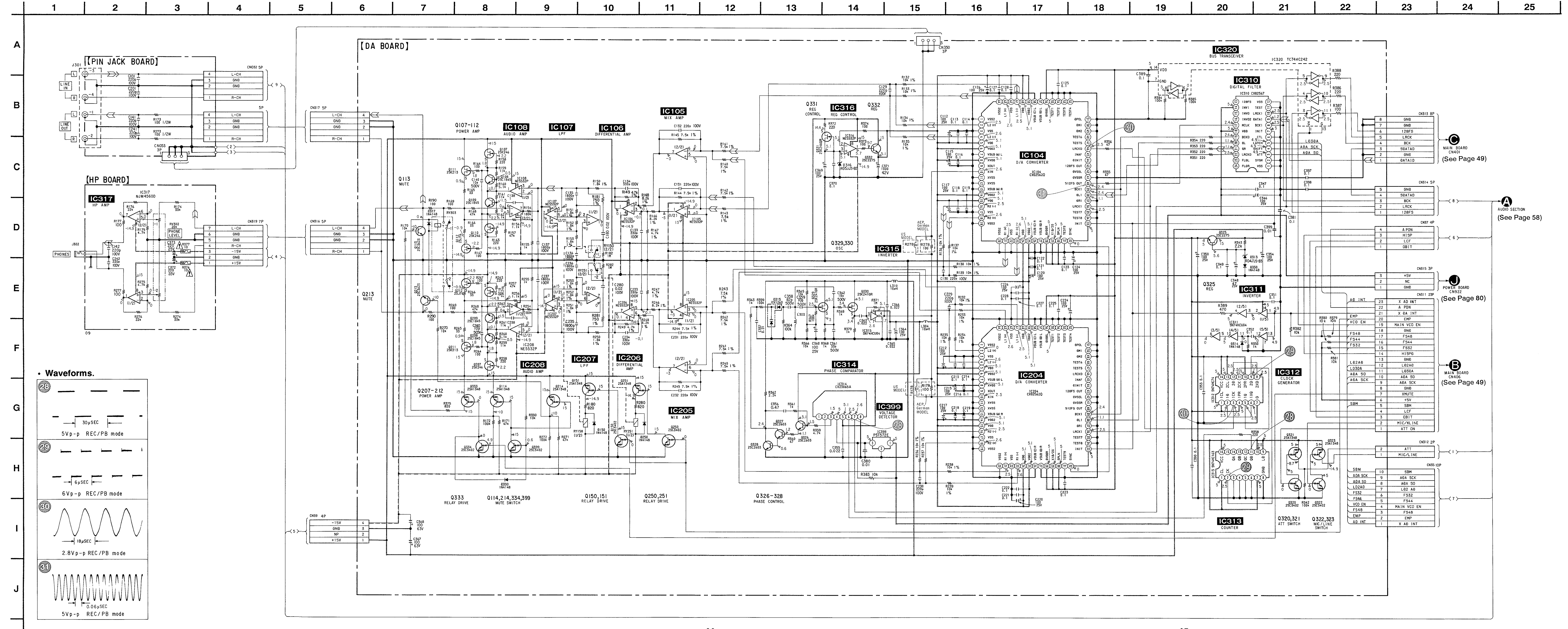
7
8
9
10
11
12
13
14
15
16
17
18
19
A
B
C
D
E
F
G
H
[HP BOARD]
J302
PHONES
RV302
PHONE LEVEL
CN319
GRY
WHT
WHT
RED
(RED)
WHT
(WHT)
1-650-808-
12
[PIN JACK BOARD]
RED
(YEL)
(YEL)
WHT
CN137
C241
J301
LINE OUT
LINE IN
BLK
CN053
C201
C101
CN032
RED
WHT
(ORG)
(ORG)
1-650-807-
12
[DA BOARD]
RY251
RY303
RY150
IC206
IC207
IC205
IC107
IC106
IC105
IC108
IC311
IC314
CN039
CN316
CN350
CN035
CN037
CN398
CN311
CN399
L304
AEP German MODEL
US MODEL
C224
C124
1-650-802-
12
09
(See Page 46)
MAIN BOARD
CN406
B
(See Page 76)
J
POWER BOARD
CN922
C
MAIN BOARD
CN401
(See Page 46)
2
3
9
4
7
6
1
5
8
A
AUDIO SECTION
(See Page 60)

Note:

- ○— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern from the side which enable seeing.
- ░ : Pattern of the rear side.

4-13. SCHEMATIC DIAGRAM — DIGITAL SECTION —

• See page 82 for IC Pin Functions.

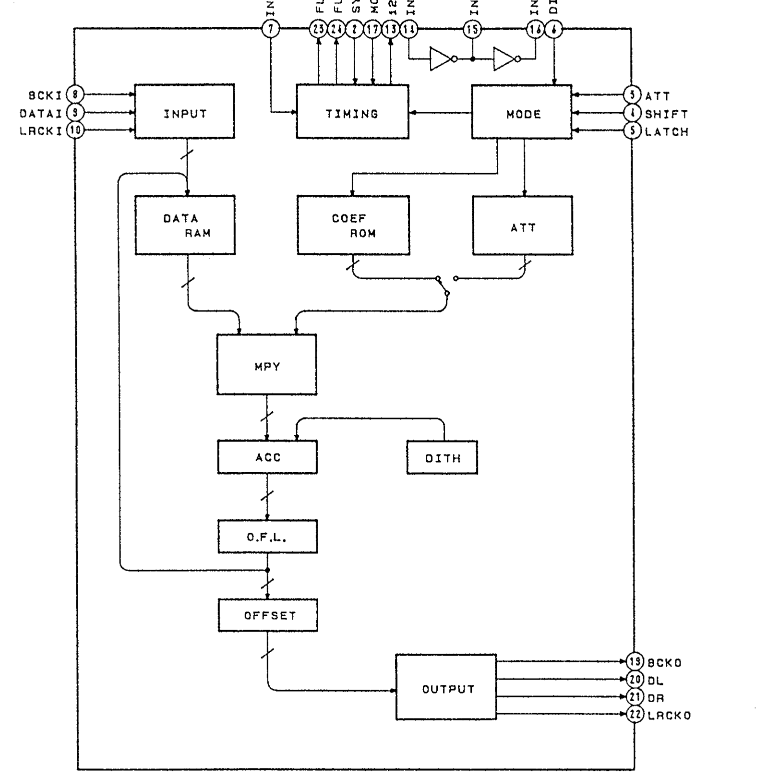

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
A
B
C
D
E
F
G
H
I
J
[PIN JACK BOARD]
LINE IN
LINE OUT
[HP BOARD]
IC317
HP AMP
PHONES
[DA BOARD]
IC108
AUDIO AMP
IC107
LPF
IC106
DIFFERENTIAL AMP
IC105
MIX AMP
IC316
REG CONTROL
IC104
D/A CONVERTER
IC315
INVERTER
IC320
BUS TRANSCEIVER
IC310
DIGITAL FILTER
IC311
INVERTER
IC312
CLOCK GENERATOR
IC313
COUNTER
IC314
PHASE COMPARATOR
IC399
VOLTAGE DETECTOR
IC204
D/A CONVERTER
IC208
AUDIO AMP
IC207
LPF
IC206
DIFFERENTIAL AMP
IC205
MIX AMP
Q107-112
POWER AMP
Q113
MUTE
Q213
MUTE
Q207-212
POWER AMP
Q331
REG CONTROL
Q332
REG
Q329,330
OSC
Q325
REG
Q333
RELAY DRIVE
Q114,214,334,399
MUTE SWITCH
Q150,151
RELAY DRIVE
Q250,251
RELAY DRIVE
Q326-328
PHASE CONTROL
Q320,321
ATT SWITCH
Q322,323
MIC/LINE SWITCH
C
MAIN BOARD CN401
(See Page 49)
A
AUDIO SECTION
(See Page 58)
J
POWER BOARD CN922
(See Page 80)
B
MAIN BOARD CN406
(See Page 49)

• **Waveforms.**

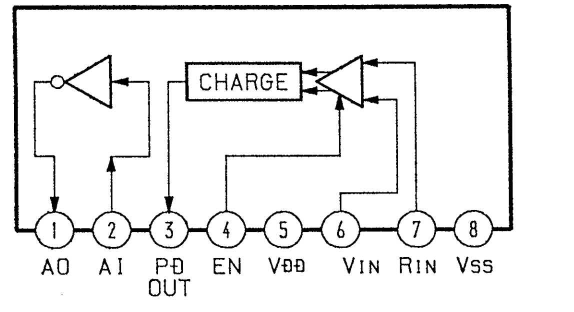
28
30μSEC
5Vp-p REC/PB mode
29
6μSEC
6Vp-p REC/PB mode
30
18μSEC
2.8Vp-p REC/PB mode
31
0.06μSEC
5Vp-p REC/PB mode

• IC Block Diagrams.

IC310 CXD2567


INIT
FLGL
FLGR
SYSM
MCLK
128FS
INVI
INVO
INVO2
DITH
BCKI
DATAI
LRCKI
INPUT
TIMING
MODE
ATT
SHIFT
LATCH
DATA RAM
COEF ROM
ATT
MPY
ACC
DITH
O.F.L.
OFFSET
OUTPUT
BCKO
DL
DR
LRCKO

IC314 CX23065A


CHARGE
1
2
3
4
5
6
7
8
AO
AI
PD OUT
EN
VDD
VIN
RIN
VSS

Note:

- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▬ : B+ Line
- ▪▪▪▪▪ : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : REC/PB
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⪢ : PB
  ⋙ : REC

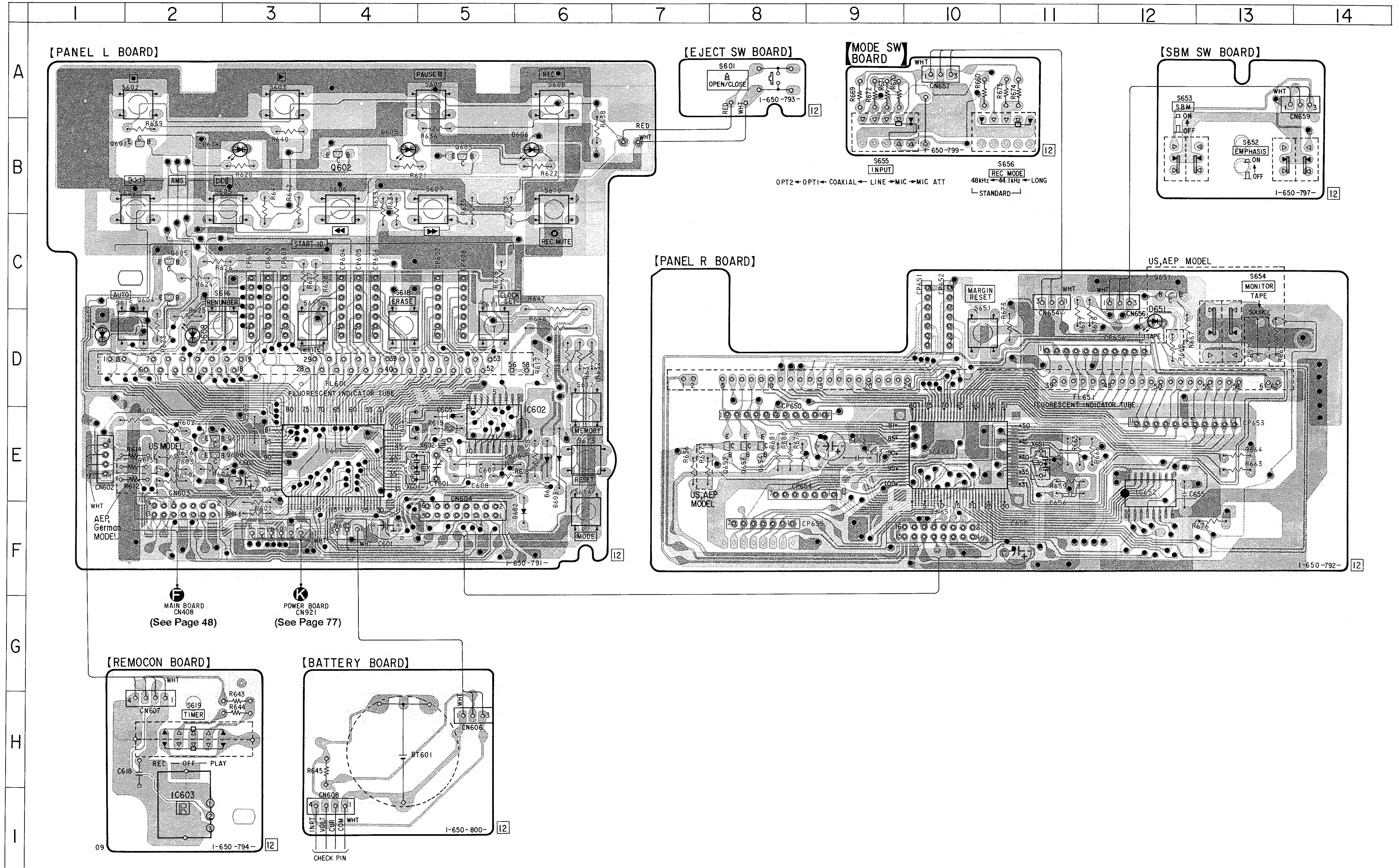
4-14. SCHEMATIC DIAGRAM
— PANEL SECTION —
• See page 92 for IC Pin Functions.

• Waveforms.
32
5.8Vp-p 4.19MHz
REC/PB mode
33
2Vp-p 32.768kHz
REC/PB mode
34
8Vp-p 2MHz
REC/PB mode
35
5.7Vp-p 32kHz
REC/PB mode
[PANEL L BOARD]
FL601
FLUORESCENT INDICATOR TUBE
Q607,608
FL DRIVE
Q601-605
LED DRIVE
IC601
FL CONTROLLER (DISPLAY)
CXP82220-Q14Q
IC602
CLOCK
CLOCK FREQUENCY
[EJECT SW BOARD]
OPEN/CLOSE
EJECT
GND
[BATTERY BOARD]
CHECK PIN
BATT
[REMOCON BOARD]
IC603
REMOTE SENSOR
TIMER
REC ← OFF → PLAY
POWER BOARD
CN921
(See Page 79)
MAIN BOARD
CN400
(See Page 52)
[PANEL R BOARD]
FL651
FLUORESCENT INDICATOR TUBE
Q652-654
FL DRIVE
IC651
FL CONTROLLER (METER)
IC652
DIGITAL AUDIO PEAK LEVEL DETECTOR
[SBM SW BOARD]
EMPHASIS
SBM
[MODE SW BOARD]
REC MODE
LONG ← 48 (kHz) → 48kHz
STANDARD
INPUT
MIC ← MIC → LINE → COAXIAL → OPT1 → OPT2
MONITOR
SOURCE ← TAPE
LED DRIVE
US, AEP MODEL
US MODEL

Note:
- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.
- ▬ : B+ Line
- ▬ ▬ : B– Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : REC/PB
- Voltages are taken with a VOM (Input impedance 10MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

4-15. PRINTED WIRING BOARD
— PANEL SECTION —

- See page 20 for Circuit Boards Location.
- See page 28 for Semiconductor Lead Layouts.

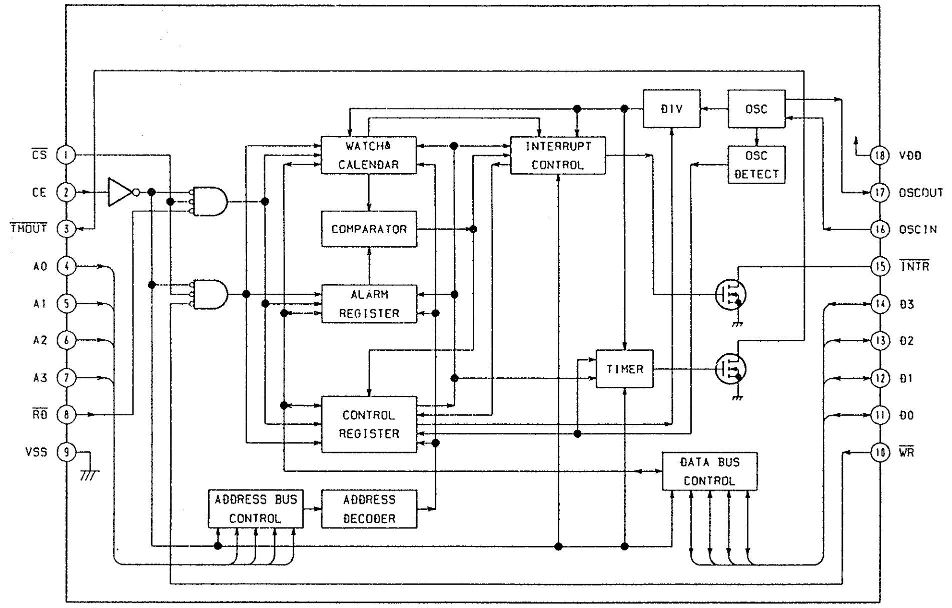

1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I
【PANEL L BOARD】
【EJECT SW BOARD】
S601 OPEN/CLOSE
1-650-793-
【MODE SW BOARD】
CN657
1-650-799-
S655 INPUT
OPT2 ← OPT1 ← COAXIAL ← LINE ← MIC ← MIC ATT
S656 REC MODE
48kHz ← 44.1kHz ← LONG
STANDARD
【SBM SW BOARD】
S653 SBM
ON OFF
S652 EMPHASIS
ON OFF
CN659
1-650-797-
【PANEL R BOARD】
US, AEP MODEL
S654 MONITOR
TAPE SOURCE
S651 MARGIN RESET
CN654 CN656
FL651 FLUORESCENT INDICATOR TUBE
IC651 IC652
1-650-792-
FL601 FLUORESCENT INDICATOR TUBE
IC601 IC602
S616 RENUMBER
S618 ERASE
S617 WRITE
START ID
CLOCK SET
AUTO
AMS
REC MUTE
MEMORY
RESET
MODE
PAUSE
REC
US MODEL
AEP, German MODEL
CN602 CN603 CN604
1-650-791-
MAIN BOARD CN408 (See Page 48)
POWER BOARD CN921 (See Page 77)
【REMOCON BOARD】
CN607
S619 TIMER
REC — OFF — PLAY
IC603
1-650-794-
【BATTERY BOARD】
BT601
CN606 CN608
INRT VOLT CHR COM
CHECK PIN
1-650-800-
12

• Semiconductor Location

Ref. No.	Location
D601	E-6
D602	F-6
D603	E-6
D604	B-3
D605	B-4
D606	B-6
D607	D-1
D608	D-2
D651	D-12
IC601	E-4
IC602	E-6
IC603	I-2
IC651	E-10
IC652	E-12
Q601	B-2
Q602	B-4
Q603	B-5
Q604	C-2
Q605	C-2
Q607	E-2
Q608	E-2
Q651	C-12
Q652	E-8
Q653	E-8
Q654	E-8

• IC Block Diagram.

IC602 RF5C62


CS
CE
THOUT
A0
A1
A2
A3
RD
VSS
VDD
OSCOUT
OSCIN
INTR
D3
D2
D1
D0
WR
WATCH& CALENDAR
INTERRUPT CONTROL
DIV
OSC
OSC DETECT
COMPARATOR
ALARM REGISTER
TIMER
CONTROL REGISTER
DATA BUS CONTROL
ADDRESS BUS CONTROL
ADDRESS DECODER

Note:

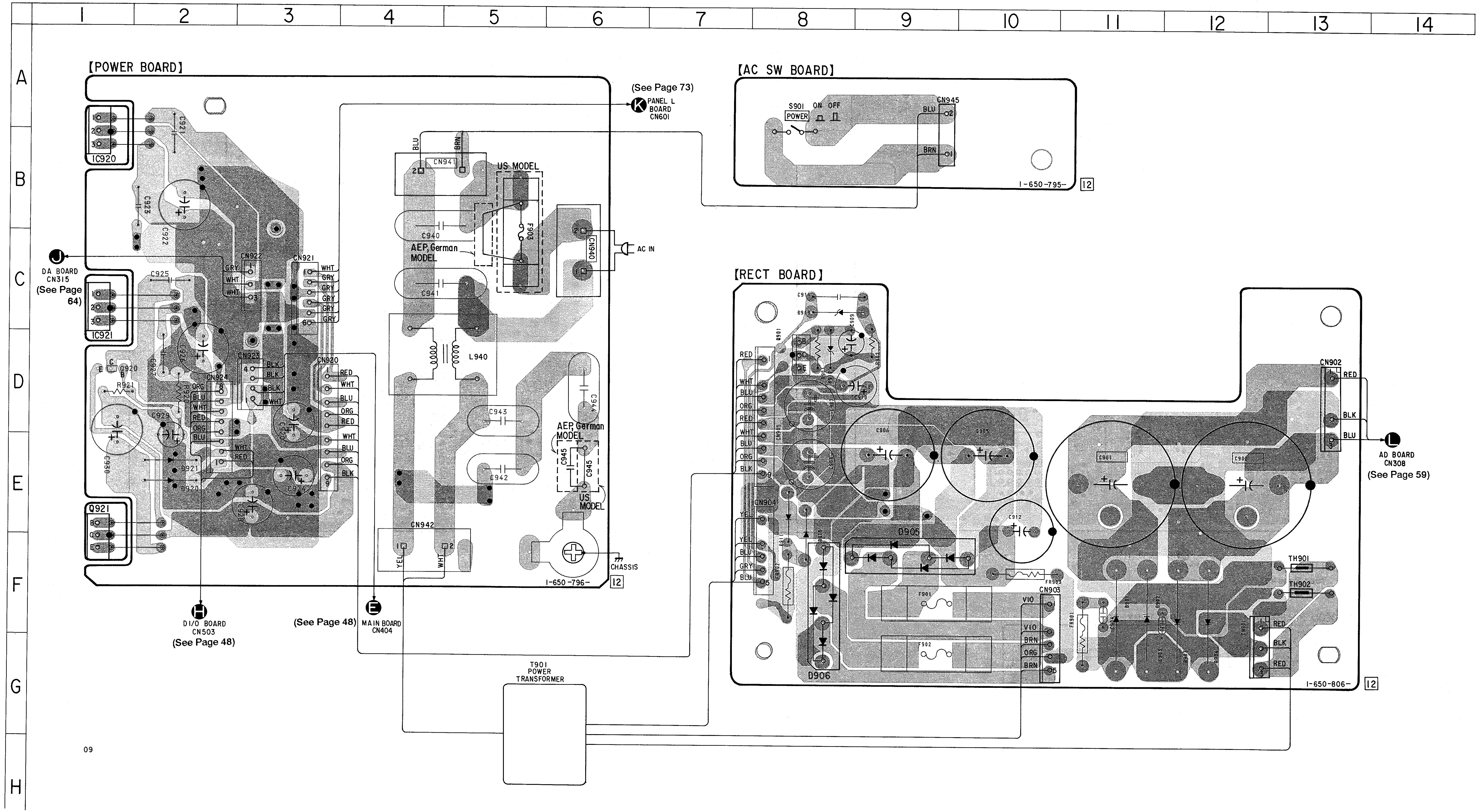
- ○—— : parts extracted from the component side.
- ● : Through hole.
- △ : internal component.
- ▨ : Pattern on the side which enable seeing.
- ░ : Pattern of the rear side.

4-16. PRINTED WIRING BOARD
— POWER SECTION —

- See page 20 for Circuit Boards Location.
- See page 28 for Semiconductor Lead Layouts.

- **Semiconductor Location**

Ref. No.	Location
D901	F-11
D902	F-11
D903	G-12
D904	G-12
D905	E-9
D906	G-8
D910	F-8
D911	F-8
D912	D-8
D913	C-8
D920	E-2
D921	E-2
IC920	B-1
IC921	D-1
Q901	D-8
Q920	D-1
Q921	E-1


1
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7
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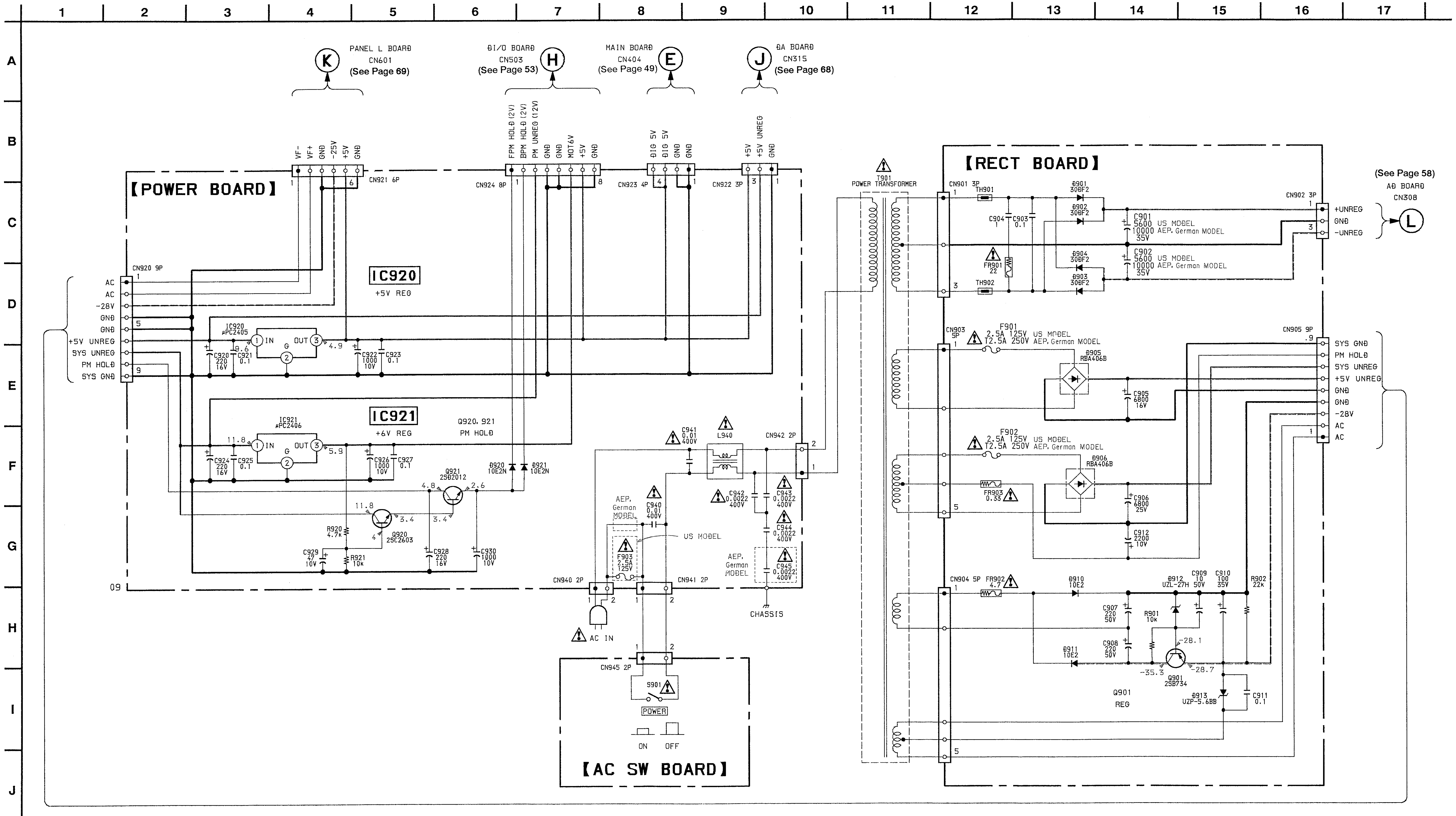
9
10
11
12
13
14
A
B
C
D
E
F
G
H
[POWER BOARD]
(See Page 73)
K
PANEL L BOARD CN601
[AC SW BOARD]
S901 ON OFF
POWER
CN945
BLU
BRN
1-650-795-
12
IC920
C921
C923
C922
CN941
BLU
BRN
US MODEL
F903
C940
AEP, German MODEL
CN940
AC IN
J
DA BOARD CN315
(See Page 64)
CN922
GRY
WHT
CN921
WHT
GRY
C925
IC921
C941
L940
[RECT BOARD]
CN923
BLK
CN920
RED
WHT
BLU
ORG
Q920
R921
CN924
C929
C943
C942
C945
C930
D921
D920
Q921
CN942
YEL
WHT
CHASSIS
1-650-796-
12
H
D/O BOARD CN503
(See Page 48)
(See Page 48)
E
MAIN BOARD CN404
T901 POWER TRANSFORMER
09
CN902
RED
BLK
BLU
L
AD BOARD CN308
(See Page 59)
C906
C905
C901
C902
C912
D905
D906
CN904
TH901
TH902
CN903
VIO
BRN
ORG
F901
F902
FR901
1-650-806-
12

Note:

- o—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern from the side which enable seeing.
- ▨ : Pattern of the rear side.

4-17. SCHEMATIC DIAGRAM
— POWER SECTION —


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J
PANEL L BOARD CN601 (See Page 69)
D I/O BOARD CN503 (See Page 53)
MAIN BOARD CN404 (See Page 49)
DA BOARD CN315 (See Page 68)
VF- VF+ GND -25V +5V GND
FPM HOLD (2V) DPM HOLD (2V) PM UNREG (12V) GND GND MOT6V +5V GND
DIG 5V DIG 5V GND GND
+5V +5V UNREG GND
【POWER BOARD】
CN921 6P
CN924 8P
CN923 4P
CN922 3P
CN920 9P
AC
AC
-28V
GND
GND
+5V UNREG
SYS UNREG
PM HOLD
SYS GND
IC920
+5V REG
IC920 μPC2405
IN OUT G
C920 220 16V
C921 0.1
C922 1000 10V
C923 0.1
IC921
+6V REG
IC921 μPC2406
Q920, 921 PM HOLD
C924 220 16V
C925 0.1
C926 1000 10V
C927 0.1
D920 10E2N
D921 10E2N
Q921 2SB2012
Q920 2SC2603
R920 4.7k
R921 10k
C929 47 10V
C928 220 16V
C930 1000 10V
11.8
9.6
4.9
5.9
4.8
2.6
3.4
09
C941 0.01 400V
L940
CN942 2P
C942 0.0022 400V
C943 0.0022 400V
C944 0.0022 400V
C945 0.0022 400V
AEP, German MODEL
C940 0.01 400V
US MODEL
F903 2.5A 125V
CN940 2P
CN941 2P
CHASSIS
AC IN
CN945 2P
S901
POWER
ON OFF
【AC SW BOARD】
T901 POWER TRANSFORMER
【RECT BOARD】
CN901 3P
TH901
TH902
C904 1
C903 0.1
FR901 22
D901 30DF2
D902 30DF2
D903 30DF2
D904 30DF2
C901 5600 US MODEL 10000 AEP, German MODEL 35V
C902 5600 US MODEL 10000 AEP, German MODEL 35V
CN902 3P
+UNREG
GND
-UNREG
(See Page 58)
AD BOARD CN308
CN903 5P
F901 2.5A 125V US MODEL T2.5A 250V AEP, German MODEL
D905 RBA406B
C905 6800 16V
F902 2.5A 125V US MODEL T2.5A 250V AEP, German MODEL
D906 RBA406B
FR903 0.33
C906 6800 25V
C912 2200 10V
CN905 9P
SYS GND
PM HOLD
SYS UNREG
+5V UNREG
GND
GND
-28V
AC
AC
CN904 5P
FR902 4.7
D910 10E2
D911 10E2
C907 220 50V
C908 220 50V
R901 10k
D912 UZL-27H
C909 10 50V
C910 100 35V
R902 22k
Q901 2SB734
Q901 REG
D913 UZP-5.6BB
C911 0.1
-28.1
-28.7
-35.3

Note:
- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- ▭ : fusible resistor.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬▬▬ : B+ Line
- ▪▪▪▪▪ : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : REC/PB
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

4-18. IC PIN FUNCTIONS

- **IC104, 204 D/A CONVERTER (CXD2562Q)**

Pin	Signal Namel	I/O	Function
1	Vss2	–	Analog GND
2	L2 (+)	O	LCHPLM output 2 (positive phase)
3	Vss	–	Analog GND
4	L2 (–)	O	LCHPLM output 2 (antiphase)
5	VDD	–	Analog power supply (+B)
6	VDD2	–	Analog power supply (+B)
7	VSUB(A)L	–	Substrate. Connected to GND.
8	XVDD	–	Master clock power supply (+B)
9	XOUT	O	Crystal oscillation output. Not used in this unit.
10	XIN	O	Crystal oscillation input
11	XVSS	–	Master clock GND
12	XVSS	–	Master clock GND
13	XSUB(A)R	–	Substrate. Connected to GND.
14	VDD2	–	Analog power supply (+B)
15	VDD	–	Analog power supply (+B)
16	R2 (–)	O	RCHPLM output 2 (antiphase)
17	Vss	–	Analog GND
18	R2 (+)	O	RCHPLM output 2 (positive phase)
19	Vss2	–	Analog GND
20	Vss2	–	Analog GND
21	R1 (+)	O	RCHPLM output 1 (positive phase)
22	Vss	–	Analog GND
23	R1 (–)	O	RCHPLM output 1 (antiphase)
24	VDD	–	Analog power supply (+B)
25	VDD2	–	Analog power supply (+B)
26	VSUB (C) R	–	Substrate. Connected to GND.
27	VSUB (D) R	–	Substrate. Connected to GND.
28	DVDD R	–	Digital power supply (+B)
29	X18/20	I	Input word length setting. “H”: 20-bit, “L”: 18-bit. Fixed to “H” in this unit.
30	SPLN	I	“L”: 2CH/CHIP, “H”: 1CH/CHIP mode. Fixed to “H” in this unit.
31	TEST9	I	Internal calculation mode. Normally “L”.
32	SYNC	I	Sync control. Fixed to “L” in this unit.
33	INIT	I	Resynchronized at the rising edge of this signal.
34	TEST8	I	RCHPLM output mute. “H”: Mute. Connected to GND in this unit.
35	TEST7	I	LCHPLM output mute. “H”: Mute. Connected to GND in this unit.
36	LRCKI	I	LRCK input
37	DR1	I	RCH data input
38	DL1	I	LCH data input
39	BCK1	I	BCK input
40	512Fs	O	512 Fs clock output

Pin	Signal Namel	I/O	Function
41	DVSS R	–	Digital GND
42	DVSS L	–	Digital GND
43	128Fs	O	128 Fs clock output. Not used in this unit.
44	DINIT	O	Delay INIT signal output. Not used in this unit.
45	INAF	O	Outputs “H” in case of incorrect sync between input/output. Not used in this unit.
46	LRCKO	O	LRCK output. Not used in this unit.
47	TEST5	O	RCH noise shaping output data. Not used in this unit.
48	TEST6	O	LCH noise shaping output data. Not used in this unit.
49	DM1	I	Dither specification. Normally “L”.
50	DM2	I	Dither specification. Normally “L”.
51	DPOL	I	Dither polarity. Normally “L”.
52	TEST4	I	Test pin. Normally “L”.
53	TEST3	I	Test pin. Normally “L”.
54	TEST2	I	Test pin. Normally “L”.
55	TEST1	I	Test pin. Normally “L”.
56	DVDD L	–	Digital power supply (+B)
57	VSUB(D)L	–	Substrate. Connected to GND.
58	VSUB(C)L	–	Substrate. Connected to GND.
59	VDD2	–	Analog power supply (+B)
60	VDD	–	Analog power supply (+B)
61	L1 (–)	O	LCHPLM output 1 (antiphase)
62	Vss	–	Analog GND
63	L1 (+)	O	LCHPLM output 1 (positive phase)
64	Vss2	–	Analog GND

- **IC401, 402 DSP (CXD2605Q)**

Pin	Signal Namel	I/O	Function
1	A8	O	External RAM address output
2	A9	O	External RAM address output
3	VDD	–	+5V
4	A10	O	External RAM address output
5	A11	O	External RAM address output
6	A12	O	External RAM address output
7	A13	O	External RAM address output
8	A14	O	External RAM address output
9	XWE	O	External RAM write enable signal output
10	XOE	O	External RAM output enable signal output
11	XEAN	O	External addressing enable signal output
12	TST1	I	Test input. Fixed to "L".
13	XT1O	O	Crystal oscillation circuit 1 output
14	XT1I	I	Crystal oscillation circuit 1 input
15	Vss	–	GND
16	XRST	I	Reset input. "L": Reset.
17	CLKO	O	System clock output (frequency; SELC="L": 4.9152 MHz, SELC="H": 8.192 MHz)
18	MINT	O	Control byte (1) bit 1="L": Q code decode (detecting between songs) output, "H": BCK clock output by RX-PLL.
19	ATSY	I	ATF sync signal input
20	MCLK	O	Channel clock (fch) output
21	DREF	O	SBSY period, duty 50 signal output
22	SBPM	O	Control byte (1) bit 1="L": Outputs monitor signal for data transfer to microprocessor (transfer enable), "H": F256 clock output by RX-PLL.
23	EXCK	I	Data transfer clock input for microprocessor
24	SDSI	I	Serial data input from microprocessor
25	SDSO	O	Serial data output to microprocessor
26	SBSY	O	Frame sync signal output for transferring data with microprocessor
27	RFPL	O	Outputs 1/5880 frequency-divided PLL clock.
28	CCLK	O	SELC="L": Outputs 9.8304 MHz, "H": Outputs 12.288 MHz.
29	MUTE	I	Mute input. "H": Mute. Not mute REC monitor sound.
30	MUTM	O	Mute monitor. "H": Indicates muting occurs.
31	UNLK	O	RXPLL lock monitor signal output. "L": Indicates locking occurs.
32	RFCT	I	Playback RF signal control ("L": Valid, "H": Invalid)
33	SYMN	O	Outputs monitor signal for C1 check results corresponding to RF.
34	SELB	I	Test pin. Fixed to "H".
35	PLCK	O	Control byte (1) bit 1="L": RFPLL clock output, "H": F128 clock output by RX-PLL.
36	TST2	I	Test pin. Fixed to "L".
37	RFDT	I	Playback RF signal input
38	XCS	I	Chip select input for data transfer with microprocessor. "L": Transfer enable.
39	SWP	I	RF switching pulse. "L": A track, "H": B track.
40	Vss	–	GND

Pin	Signal Namel	I/O	Function
41	PIPC	O	ATF pilot signal/discrimination signal output for record signal. “H”: Pilot signal.
42	REPB	O	REC/PB discrimination signal output. “H”: REC.
43	REDT	O	Record signal output
44	TST4	I	Test pin. Fixed to “L”.
45	PDO	O	RXPLL phase comparator output
46	SELC	I	Oscillation frequency select signal input
47	MUTA	I	Mute input. “H”: Mute. Also mutes REC monitor sound.
48	PLCO	I	RXPLL external VCO clock input (512 fs as reference)
49	PLVR	O	RXPLL phase comparison signal output (2 fs created from PLL clock.)
50	PLRF	O	RXPLL phase comparison signal output (RX SYNC detection signal, 2 fs)
51	MSSL	I	Master mode/slave mode select. “H”: Master.
52	RX	I	Digital interface signal input
53	VDD	–	+5V
54	TX	O	Digital interface signal input
55	SELA	I	Test pin. Fixed to “H”.
56	EXSY	I/O	External sync signal input/output
57	EXSN	I/O	External sync signal input/output
58	F128	I/O	128 fs/256 fs (at 2 × speed) signal input/output
59	F256	O	256 fs/512 fs (at 2 × speed) signal output
60	F512	O	512 fs signal output
61	ADLF	I	ADTT, ADDI, ADDN serial data LSB/MSB first select input. “H”: LSB first.
62	DALF	I	DADT, DADO serial data LSB/MSB first select input. “H”: LSB first.
63	XT2O	O	Crystal oscillation circuit 2 output
64	XT2I	I	Crystal oscillation circuit 2 input
65	Vss	–	GND
66	XT3O	O	Crystal oscillation circuit 3 output
67	XT3I	I	Crystal oscillation circuit 3 input
68	FSEN	I	F128, BCK, LRCK input/output select input. “H”: Output.
69	LR03	O	Inverted signal of LR02
70	LR02	O	Control byte (1) bit 1=“L”: LRCK 16BCK delay signal, “H”: LRCK clock output by RX-PLL.
71	LR01	O	LRCK 15BCK delay signal
72	LRCK	I/O	fs/2 fs (at 2 × speed) signal input/output
73	WCK	O	2 fs/4 fs (at 2 × speed) signal output
74	XBCK	O	Outputs inverted signal of BCK
75	BCK	I/O	64 fs/128 fs (at 2 × speed) signal input/output
76	ADDT	I	A/D serial data input
77	DADT	O	D/A serial data output
78	DADO	I	Audio data input for digital OUT
79	ADDI	O	Digital IN audio data output
80	ADDN	I	Digital IN audio data input

Pin	Signal Namel	I/O	Function
81	ERRI	I	Validity flag data input for digital OUT
82	ERRF	O	DADT data compensation data/discrimination signal output. "H": Compensation data.
83	MNTG	O	"H": Indicates monitor data for error correction is being output to D7 to D0.
84	D7	I/O	External RAM data input/output (MSB)
85	D6	I/O	External RAM data input/output
86	D5	I/O	External RAM data input/output
87	D4	I/O	External RAM data input/output
88	D3	I/O	External RAM data input/output
89	D2	I/O	External RAM data input/output
90	Vss	–	GND
91	D1	I/O	External RAM data input/output
92	D0	I/O	External RAM data input/output (LSB)
93	A0	O	External RAM address output
94	A1	O	External RAM address output
95	A2	O	External RAM address output
96	A3	O	External RAM address output
97	A4	O	External RAM address output
98	A5	O	External RAM address output
99	A6	O	External RAM address output
100	A7	O	External RAM address output

- **IC403 MAIN MICROPROCESSOR (CXP87532-007Q)**

Pin	Signal Namel	I/O	Function
1	SBM	O	SBM ON/OFF control output. "H": ON, "L": OFF.
2	LCF	O	Low cut filter ON/OFF control output. "H": Fixed to LCF ON.
3	0BIT	O	A/D output word length 24-bit/16-bit select. "L": Fixed to 16-bit.
4	MIC/X LINE	O	MIC/LINE input select. "H": MIC, "L": LINE.
5	ATT ON	O	Microphone attenuator ON/OFF control output. "H": ON, "L": OFF.
6		–	Not used.
7	ADA SO	O	Serial data output to digital filter
8	ADA SCK	O	Serial clock output to digital filter
9	F VCO EN	O	Digital IN VCO oscillation control. "H": Oscillation; "L": Stop.
10	LD4 RSV	O	Serial communication data latch pulse to DSP.
11	LD3 AD	O	Serial communication data latch pulse to A/D digital filter
12	LD2 DA	O	Serial communication data latch pulse to D/A digital filter
13	LD1 DSP	O	Selects command/data on communication line with DSP.
14	LD0 GARY	O	Serial communication data latch pulse to gate array.
15		O	Not used (open).
16		O	
17		O	
18		O	
19		I	
20	FS48	O	24.576 MHz crystal select output. ("L": Active) Fs=48 kHz.
21	FS44	O	22.5792 MHz crystal select output. ("L": Active) Fs=44.1 kHz.
22	FS32	O	16.384 MHz crystal select output. ("L": Active) Fs=32 kHz.
23	MODE0	I	Not used. Fixed to "L".
24	MODE1	I	
25		I	
26		I	
27		O	Not used (open).
28		O	
29		O	
30		O	
31	XLMUTE	O	Line mute output. "L": Mute.
32	A PDN	O	A/D converter control output. "H": Power down, "L": Active.
33	MUTE 2605#2	O	Mute signal to CXD2605Q (IC402: slave). "H": Mute.
34	MUTE 2605#1	O	Mute signal to CXD2605Q (IC401: master). "H": Mute.
35	AF3	I	AF mode select. Fixed to "H".
36	AF2	I	
37	AF1	I	
38	AF0	I	
39	MP	–	Connected to GND.
40	XRST	I	System reset input. "L": Reset.

Pin	Signal Namel	I/O	Function
41	Vss	–	GND
42	XTAL	O	System clock output (open)
43	EXTAL	I	System clock input
44	XDISP-RQ	O	Communication request output to counter microprocessor (“L”: Active)
45	REC DI	O	Record current control output. “H”: Record disable, “L”: Record enable.
46	X MECH REQ	O	Communication request output to mechanism microprocessor (“L”: Active)
47		O	Not used (open).
48	X DISP ACK	I	Communication response input from counter microprocessor (“L”: Active)
49	DM DT I	I	Serial data input from counter microprocessor and mechanism microprocessor
50	DM DT O	O	Serial data output to counter microprocessor and mechanism microprocessor
51	DM CK	O	Serial clock output to counter microprocessor and mechanism microprocessor
52	XSBSY	I	SUB SYNC input from CXD2605 (IC401: master)
53	SR DT IN	I	Serial data input from CXD2605 (IC401: master, IC402: slave)
54	SR DT OUT	O	Serial data output to CXD2605 (IC401: master, IC402: slave)
55	X SR CK	O	Serial clock output to CXD2605 (IC401: master, IC402: slave)
56	AVss	–	A/D port GND. Connected to GND.
57	AVREF	–	A/D port reference voltage input. Connected to +5V.
58	AVDD	–	A/D port power supply. Connected to +5V.
59	X MECH BUSY	I	Communication control signal from mechanism microprocessor. “H”: Communication enable, “L”: Communication disable.
60		I	Not used. Fixed to “L”.
61		I	Not used. Fixed to “H”.
62		I	Not used. Connected to GND.
63		I	Not used. Fixed to “L”.
64	MUT MON	I	Mute monitor input. “H”: Mute.
65	M INT	I	Q code decode value input. “H”: Between songs.
66		I	Not used. Connected to GND.
67		I	
68		I	
69		I	
70		I	
71		I	
72		I	
73		I	
74		I	Not used. Fixed to “L”.
75		O	Not used (open).
76		O	
77		O	
78		O	
79		O	
80		O	

Pin	Signal Namel	I/O	Function
81		O	Not used (open).
82		O	
83		O	
84		O	
85	X DSP RDY	I	Communication control signal from DSP. "L": Data transfer enable, "H": Data transfer disable.
86	XTEST	I	Test pin. "L": Test mode. (Commonly used for D PG, PATH, torque.)
87	PW DN	I	Not used. Fixed to "L".
88	Vss	–	GND
89	VDD	–	+5V power supply
90	VPP	–	Connected to +5V.
91		O	Not used (open).
92		O	
93	XAD INIT	O	A/D digital filter reset output. "L": Reset.
94	XDA INIT	O	D/A digital filter reset output. "L": Reset.
95	EMP	O	Emphasis ON/OFF select output. "H": Emphasis ON.
96		O	Not used (open).
97	HISPD	O	
98	SEL05 XSL	O	Chip select output to CXD2605Q. "L": IC402, "H": IC401.
99		O	Not used (open).
100		O	

• IC405 DSP (CXD2704Q)

Pin	Signal Namel	I/O	Function
1	TST1	I	Test pin. Fixed to “L”.
2	Vss	–	GND
3	TEST	I	Test pin. Fixed to “L”.
4	PSSL	I	
5	HA0	I	
6	HA1	I	
7	HA2	I	
8	HA3	I	
9	XRD	I	
10	MCK1	I	Master clock input 1
11	MCK2	I	Master clock input 2. “H”: Not used.
12	Vss	–	GND
13	H16B	I	Test pin. Fixed to “L”.
14 to 22	HD0 to HD8	O	Test pin. Not used.
23	Vss	–	GND
24 to 26	HD9 to HD11	O	Test pin. Not used.
27	SIA	I	2-channel serial data input A
28	SOA	O	2-channel serial data output A
29	XBCK	I	Serial data transfer clock
30	LR03	I	Sampling rate clock input for serial I/O
31	OVR	O	Not used.
32	Vss	–	GND
33	VDD	–	Power supply
34	XCLR	I	Reset input. “L”: Reset.
35	SIB	I	2-channel serial data input B
36	SOB	O	2-channel serial data output B
37 to 40	HD12 to HD15	O	Test pin. Not used.
41	—	–	Open
42	Vss	–	GND
43, 44	—	–	Open
45 to 51	A0 to A6	O	Optional DRAM address output
52	Vss		GND
53 to 56	A7 to A10	O	Optional DRAM address output
57	TSTJ	–	Test pin. Fixed to “L”.
58	SBCK	–	
59	SLC	–	

Pin	Signal Namel	I/O	Function
60 to 62	–	–	Not used (open).
63	Vss	–	GND
64 to 67	–	–	Not used (open).
68	XRAS	O	Row address strobe output to optional DRAM
69	XWSO	O	Optional DRAM read/write output. "L": Write.
70	DIO	I/O	Data input/output with optional DRAM
71	XCAS	O	Column address strobe output to optional DRAM
72	Vss	–	GND
73	VDD	–	Power supply
74	SDTI	I	Microprocessor interface serial data input
75	SCK	I	Microprocessor interface serial transfer clock
76	XSLD	I	Microprocessor interface serial data input latch
77	XRDY	O	Microprocessor interface transfer ready ("H": Transfer disable)
78	SDTO	O	Not used.
79	XCS	I	Microprocessor interface chip select. Fixed to "L".
80	–	–	Not used (open).

- **IC601 FL CONTROLLER (DISPLAY) (CXP82220-014Q)**

<table>
<tr><th>Pin</th><th>Signal Namel</th><th>I/O</th><th>Function</th></tr>
<tr><td>1</td><td>XTEST</td><td>I</td><td>Test pin. “L”: Test mode.</td></tr>
<tr><td>2</td><td>XREQ</td><td>I</td><td>Communication request input from main microprocessor (“L”: Active)</td></tr>
<tr><td>3</td><td>TMOUT</td><td>I</td><td>TMOUT signal input from clock IC (RF5C62)</td></tr>
<tr><td>4</td><td>RMC</td><td>I</td><td>Remote control signal input</td></tr>
<tr><td>5</td><td>DATSEL</td><td>I</td><td>Remote control category (DAT1/DAT2) select input. “L”: Fixed to DAT1.</td></tr>
<tr><td>6</td><td>XMET REQ</td><td>O</td><td>Communication request output to meter microprocessor (“L”: Active)</td></tr>
<tr><td>7</td><td>CLKSEL</td><td>O</td><td>Chip select output to clock IC (RF5C62). “L”: Active.</td></tr>
<tr><td>8</td><td>XACK</td><td>O</td><td>Communication response output to main microprocessor (“L”: Active)</td></tr>
<tr><td>9</td><td>XMET ACK</td><td>I</td><td>Communication response input from meter microprocessor (“L”: Active)</td></tr>
<tr><td>10</td><td>SCK0</td><td>I</td><td>Serial clock input from main microprocessor</td></tr>
<tr><td>11</td><td>SI0</td><td>I</td><td>Serial data input from main microprocessor</td></tr>
<tr><td>12</td><td>S00</td><td>O</td><td>Serial data output to main microprocessor</td></tr>
<tr><td>13</td><td>SCK1</td><td>O</td><td>Serial clock output to meter microprocessor</td></tr>
<tr><td>14</td><td>SI1</td><td>I</td><td>Serial data input from meter microprocessor</td></tr>
<tr><td>15</td><td>SO1</td><td>O</td><td>Serial data output to meter microprocessor</td></tr>
<tr><td>16</td><td>XRD</td><td>O</td><td>Read request output to clock IC (RF5C62). “L”: Active.</td></tr>
<tr><td>17</td><td>XWR</td><td>O</td><td>Write request output to clock IC (RF5C62). “L”: Active.</td></tr>
<tr><td>18</td><td>ORDER</td><td>I</td><td>Clock display select input. “H”: years, months, days, “L”: days, months, years. Fixed to “H”.</td></tr>
<tr><td>19</td><td>X24/12</td><td>I</td><td>Clock display select input. “H”: 12 hours (AM/PM), “L”: 24 hours. Fixed to “H”.</td></tr>
<tr><td>20</td><td></td><td>O</td><td>Not used (open).</td></tr>
<tr><td>21</td><td></td><td>O</td><td>Not used (open).</td></tr>
<tr><td>22</td><td></td><td>O</td><td>Not used (open).</td></tr>
<tr><td>23</td><td></td><td>O</td><td>Not used (open).</td></tr>
<tr><td>24</td><td>D0</td><td>I/O</td><td rowspan="4">Clock IC (RF5C62) 4-bit data bus</td></tr>
<tr><td>25</td><td>D1</td><td>I/O</td></tr>
<tr><td>26</td><td>D2</td><td>I/O</td></tr>
<tr><td>27</td><td>D3</td><td>I/O</td></tr>
<tr><td>28</td><td>A0</td><td>O</td><td rowspan="4">Clock IC (RF5C62) 4-bit address bus</td></tr>
<tr><td>29</td><td>A1</td><td>O</td></tr>
<tr><td>30</td><td>A2</td><td>O</td></tr>
<tr><td>31</td><td>A3</td><td>O</td></tr>
<tr><td>32</td><td>AN0</td><td>I</td><td>Key switch input 0 (A/D port)
<table>
<tr><td>Switch</td><td>AUTO</td><td>RENUMBEF</td><td>WRITE</td><td>ERASE</td><td>No input</td></tr>
<tr><td>Voltage (Vdc)</td><td>0.0</td><td>0.6</td><td>1.3</td><td>1.9</td><td>5.0</td></tr>
</table></td></tr>
<tr><td>33</td><td>AN1</td><td>I</td><td>Key switch input 1 (A/D port)
<table>
<tr><td>Switch</td><td>CLKSET</td><td>MEMORY</td><td>RESET</td><td>MODE</td><td>No input</td></tr>
<tr><td>Voltage (Vdc)</td><td>0.0</td><td>0.6</td><td>1.3</td><td>1.9</td><td>5.0</td></tr>
</table></td></tr>
<tr><td>34</td><td>AN2</td><td>I</td><td>Key switch input 2 (A/D port)
<table>
<tr><td>Switch</td><td>REW</td><td>FF</td><td>REC</td><td>PAUSE</td><td>MUTE</td><td>No input</td></tr>
<tr><td>Voltage (Vdc)</td><td>0.0</td><td>0.6</td><td>1.3</td><td>1.9</td><td>2.5</td><td>5.0</td></tr>
</table></td></tr>
<tr><td>35</td><td>AN3</td><td>I</td><td>Key switch input 3 (A/D port)
<table>
<tr><td>Switch</td><td>EJECT</td><td>STOP</td><td>PLAY</td><td>AMS>></td><td><<AMS</td><td>No input</td></tr>
<tr><td>Voltage (Vdc)</td><td>0.0</td><td>0.6</td><td>1.3</td><td>1.9</td><td>2.5</td><td>5.0</td></tr>
</table></td></tr>
</table>

Pin	Signal Namel	I/O	Function
36	AN4	I	Not used. Fixed to "H".
37	AN5	I	Not used. Connected to GND.
38	XRST	I	System reset input. "L": Reset.
39	EXTAL	I	Clock oscillation input (4.19 MHz)
40	XTAL	O	Clock oscillation output (4.19 MHz)
41	GND	–	GND
42	TX	O	Not used (open).
43	TEX	I	
44	AN6	I	Not used. Connected to GND.
45	AN7	I	
46	AVREF	–	A/D port reference voltage. Connected to +5V.
47	AVss	–	A/D port GND. Connected to GND.
48 to 73	P01 to P26	O	FL display segment drive output
74 to 87	G01 to G14	O	FL display grid drive output
88	VFDP		–25V power supply for driving FL display
89	VDD	–	+5V
90	–	–	Connected to +5V. Fixed to "H".
91	GND	–	GND
92	PG0	O	"PLAY" LED light output. "H": light.
93	PG1	O	"PAUSE" LED light output. "H": light.
94	PG2	O	"REC" LED light output. "H": light.
95	PG3	O	"AUTO" LED light output. "H": light.
96	PG4	O	"RENUMBER" LED light output. "H": light.
97	PG5	O	Not used (open).
98	PG6	O	
99	PG7	O	
100	SBSY	I	CXD2605Q (IC401: master) SBSY signal input

- **IC651 METER MICROPROCESSOR (CXP82220-009Q)**

<table>
<tr><th>Pin</th><th>Signal Namel</th><th>I/O</th><th>Function</th></tr>
<tr><td>1</td><td>X TEST</td><td>I</td><td>Test pin. “L”: Test mode.</td></tr>
<tr><td>2</td><td>X REQ</td><td>I</td><td>Communication request input from counter microprocessor (“L”: Active)</td></tr>
<tr><td>3</td><td>MUTE</td><td>I</td><td>Level meter mute signal input. “L”: Mute.</td></tr>
<tr><td>4</td><td></td><td>I</td><td rowspan="2">Not used. Fixed to “H”.</td></tr>
<tr><td>5</td><td></td><td>I</td></tr>
<tr><td>6</td><td>X SUB REQ</td><td>O</td><td>Not used.</td></tr>
<tr><td>7</td><td>X MET SEL</td><td>O</td><td>Chip select output to meter IC (MSM6338). “L”: Active.</td></tr>
<tr><td>8</td><td>X ACK</td><td>O</td><td>Communication response output to counter microprocessor (“L”: Active)</td></tr>
<tr><td>9</td><td>X MET ACK</td><td>O</td><td rowspan="4">Not used.</td></tr>
<tr><td>10</td><td>SCK0</td><td>I</td></tr>
<tr><td>11</td><td>SIO</td><td>I</td></tr>
<tr><td>12</td><td>SOO</td><td>O</td></tr>
<tr><td>13</td><td>SCK1</td><td>I</td><td>Serial clock input from counter microprocessor</td></tr>
<tr><td>14</td><td>SI1</td><td>I</td><td>Serial data input from counter microprocessor</td></tr>
<tr><td>15</td><td>S01</td><td>O</td><td>Serial data output to counter microprocessor</td></tr>
<tr><td>16</td><td>X RD</td><td>O</td><td>Read request output to meter IC (MSM6338). “L”: Active.</td></tr>
<tr><td>17</td><td>X WR</td><td>O</td><td>Write request output to meter IC (MSM6338). “L”: Active.</td></tr>
<tr><td>18</td><td></td><td>O</td><td rowspan="2">Not used.</td></tr>
<tr><td>19</td><td></td><td>O</td></tr>
<tr><td>20</td><td>SW0</td><td>I</td><td>TAPE switch input</td></tr>
<tr><td>21</td><td>SW1</td><td>I</td><td>SRM switch input</td></tr>
<tr><td>22</td><td>SW2</td><td>I</td><td>EMPHASIS switch input</td></tr>
<tr><td>23</td><td></td><td>O</td><td>Not used.</td></tr>
<tr><td>24</td><td>D0</td><td>I/O</td><td rowspan="4">Meter IC (MSM6338) 4-bit data bus</td></tr>
<tr><td>25</td><td>D1</td><td>I/O</td></tr>
<tr><td>26</td><td>D2</td><td>I/O</td></tr>
<tr><td>27</td><td>D3</td><td>I/O</td></tr>
<tr><td>28</td><td>A0</td><td>O</td><td rowspan="2">Meter IC (MSM6338) 4-bit address bus</td></tr>
<tr><td>29</td><td>A1</td><td>O</td></tr>
<tr><td>30</td><td>A2</td><td>O</td><td rowspan="2">Not used.</td></tr>
<tr><td>31</td><td>A3</td><td>O</td></tr>
<tr><td>32</td><td>AN0</td><td>I</td><td>INPUT SELECT switch input (A/D port)
<table>
<tr><td>Switch</td><td>MIC</td><td>LINE</td><td>COAXIAL</td><td>OPT1</td><td>OPT2</td><td>MICATT</td></tr>
<tr><td>Voltage (Vdc)</td><td>0.0</td><td>0.6</td><td>1.3</td><td>1.9</td><td>2.5</td><td>5.0</td></tr>
</table></td></tr>
<tr><td>33</td><td>AN1</td><td>I</td><td>REC MODE switch input (A/D port)
<table>
<tr><td>Switch</td><td>MARGIN RESET</td><td>LONG</td><td>48K</td><td>44.1K</td></tr>
<tr><td>Voltage (Vdc)</td><td>0.0</td><td>0.6</td><td>1.3</td><td>5.0</td></tr>
</table></td></tr>
<tr><td>34</td><td>AN2</td><td>I</td><td rowspan="2">Not used. Fixed to “H”.</td></tr>
<tr><td>35</td><td>AN3</td><td>I</td></tr>
</table>

Pin	Signal Namel	I/O	Function
36	AN4	I	Not used. Connected to GND.
37	AN5	I	
38	X RST	I	System reset input. “L”: Reset.
39	EXTAL	I	Clock oscillation input (4.19 MHz)
40	XTAL	O	Clock oscillation input (4.19 MHz)
41	Vss	–	GND
42	TX	O	Not used (open).
43	TEX	I	
44	AN6	I	Not used. Fixed to “H”.
45	AN7	I	
46	AVREF	–	A/D port reference voltage. Connected to +5V.
47	AVss	–	A/D port GND. Connected to GND.
48 to 79	SEG0 to SEG31	O	FL display segment drive output
80		O	Not used.
81		O	
82		O	
83		O	
84 to 87	G4 to G1	O	FL display grid drive output
88	VFDP	–	–25V power supply for driving FL display
89	VDD	–	+5V power supply
90	–	–	Connected to +5V.
91	GND	–	GND
92	PG0	O	“TAPE” LED light output. “H”: Light.
93	PG1	O	Not used.
94	PG2	O	
95	PG3	O	
96	PG4	O	
97	PG5	O	
98	PG6	O	
99	PG7	O	
100	SBSY	I	

- **IC652 METER IC (MSM6338MS)**

Pin	Signal Namel	I/O	Function
1	DATA	I	fs serial data input (2's complement)
2	BCK	I	fs serial data fetch clock (bit clock)
3	LRCK	I	fs input Lch/Rch discrimination signal. "H": Rch, "L": Lch.
4	XRESET	I	Reset input. "L": Reset.
5	XWR	I	Data write request input (data write at rising edge)
6	XRD	I	Data read request input ("L": Read enable)
7	XCE	I	Chip select input ("L": Select)
8	Vss	–	GND
9	D0	I/O/Z	4-bit data bus (tristate)
10	–		Not used (open).
11	D1	I/O/Z	4-bit data bus (tristate)
12	D2	I/O/Z	
13	D3	I/O/Z	
14	A0	I	Address input. Selects internal register.
15	A1	I	
16	VDD	–	+5V power supply

- **IC901 MECHANISM MICROPROCESSOR (CXP87532-006Q)**

Pin	Signal Namel	I/O	Function
1	FP KICK	O	FWD plunger kick control output
2	C DIR RVS	O	Capstan rotation direction control output. "H": FWD, "L": RVS.
3	PLN ON	O	Brake plunger ON control output
4	PLN KICK	O	Brake plunger kick control output
5	D ON	O	Drum motor ON control output
6	D DIR RVS	O	Not used.
7	ATF M/XS	I	
8	LD8 RF	O	
9		O	
10		O	
11		O	
12		O	
13	MCH-ACT	O	
14		O	
15	LE	O	Loading motor rotation direction control output. Eject direction.
16	LL	O	Loading motor rotation direction control output. Loading direction.
17	CAS M OUT	O	Cassette compartment motor rotation direction control output. OUT direction.
18	CAS M IN	O	Cassette compartment motor rotation direction control output. IN direction.
19	X ROM SEL	O	EEPROM chip select output
20		O	Not used.
21		O	
22		O	
23		I	Not used. Connected to "H".
24		I	
25	CAS IN	I	Cassette IN switch input
26	REC EN	I	REC enable switch input
27	CAS LCK	I	Cassette compartment lock switch input
28	CAS OUT	I	Cassette compartment OUT switch input
29	UNLD SW	I	UNLD switch input. "H": UNLOAD position.
30	LD SW	I	LD switch input. "H": STOP position.
31		O	Not used.
32		O	
33		O	
34		O	
35		I	Not used. Fixed to "H".
36		I	
37		I	
38		I	
39	MP		Connected to GND.
40	X RST	I	Reset input. "L": Reset.

Pin	Signal Namel	I/O	Function
41	Vss	–	GND
42	XTAL	O	Crystal oscillation output (9.408 MHz)
43	EXTAL	I	Crystal oscillation input (9.408 MHz)
44	X MECH BSY	O	Mechanism microprocessor BUSY signal output
45		O	Not used.
46	T LED ON	O	T side end sensor ON output. "H": ON.
47	S LED ON	O	S side end sensor ON output. "H": ON.
48	X SBSY	I	SUB SYNC input from CXD2605
49	ROM DT IN	I	Data input from EEPROM
50	ROM DT OUT	O	Data output to EEPROM
51	ROM CK	O	Serial clock output to EEPROM
52	X MECH REQ	I	Communication request input from main microprocessor
53	C DT IN	I	Serial data input from main microprocessor
54	M DT OUT	O	Serial data output to main microprocessor
55	X SR CK	I	Serial clock input from main microprocessor
56	AVss	–	A/D port GND. Connected to GND.
57	AVREF	–	A/D port reference voltage. Connected to +5V.
58	AVDD	–	A/D port power supply.
59	T END	I	T side end sensor input
60	S END	I	S side end sensor input
61		I	Fixed to "H".
62	X ROM BSY	I	BUSY signal input from EEPROM.
63		I	Not used.
64		I	Not used. Fixed to "H".
65		I	
66	ATF IN	I	ATF pilot signal input
67	FG T	I	T side reel FG signal input
68	FG S	I	S side reel FG signal input
69	C FG	I	Capstan FG signal input
70	D FG	I	Drum FG signal input
71	D PG	I	Drum PG signal input
72	D REF	I	Drum reference signal input
73	ATF S2	I	DPG auto control FRC signal input
74		I	Not used. Fixed to "H".
75		O	Not used.
76	X CAS TEST	I	Test pin. "L": Test mode with no cassette compartment.
77	MST CK	I	Master clock input
78	PB DET	I	ATF SYNC PB data
79	SWP	O	Switching pulse output
80	AGC PWM	O	AGC PWM signal output

Pin	Signal Namel	I/O	Function
81	PWM T	O	T side reel PWM signal output
82	PWM S	O	S side reel PWM signal output
83	D PWM	O	Drum PWM signal output
84	C PWM	O	Capstan PWM signal output
85		I	Not used. Fixed to "H".
86	X TEST	I	Test pin. "L": Test mode. (Commonly used for D PG, PATH, torque.)
87	POW DN	I	Not used. Fixed to "H".
88	Vss	–	GND
89	VDD	–	+5V power supply
90	VPP	–	Connected to +5V.
91	ATF S2	O	ATF sampling pulse #2 output.
92	AREA	O	AREA signal output
93		O	Not used.
94		O	
95		O	
96	X LP REC	O	LP REC control output. "L": LP mode REC.
97		O	Not used.
98		O	
99	X T LOCK	O	Reel motor T LOCK control output. "L": T LOCK.
100	FP ON	O	FWD plunger ON control output.

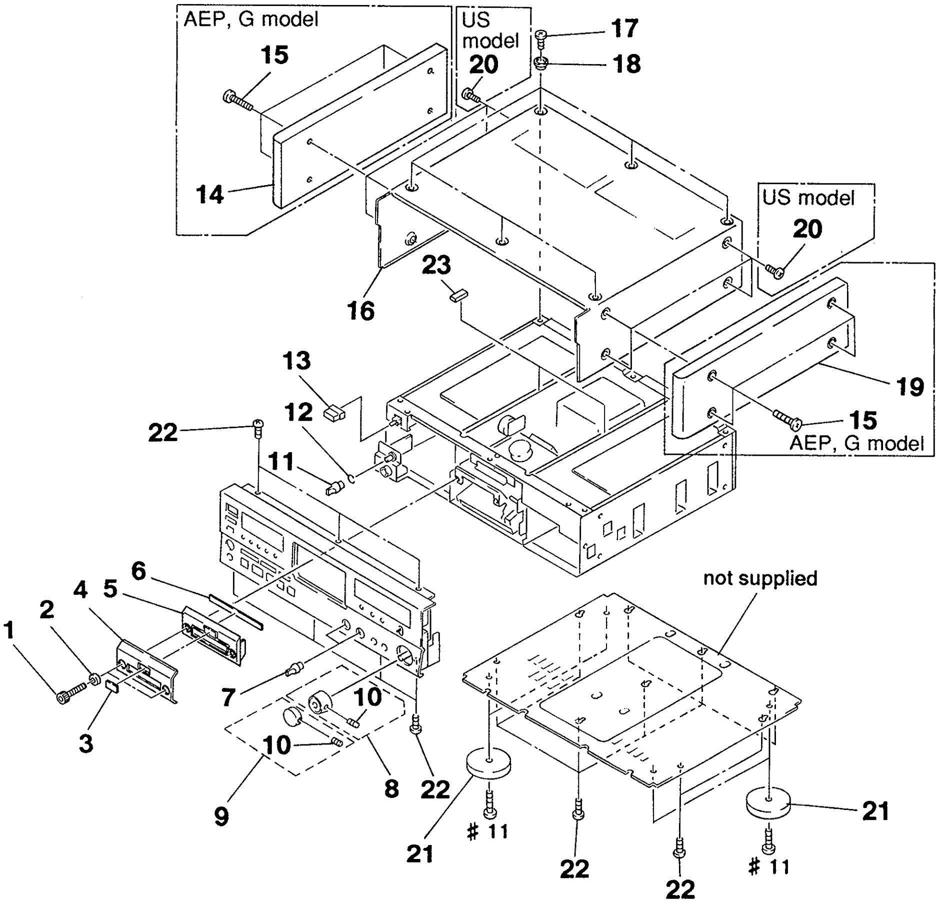
SECTION 5
EXPLODED VIEWS

NOTE:

- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- G : German model

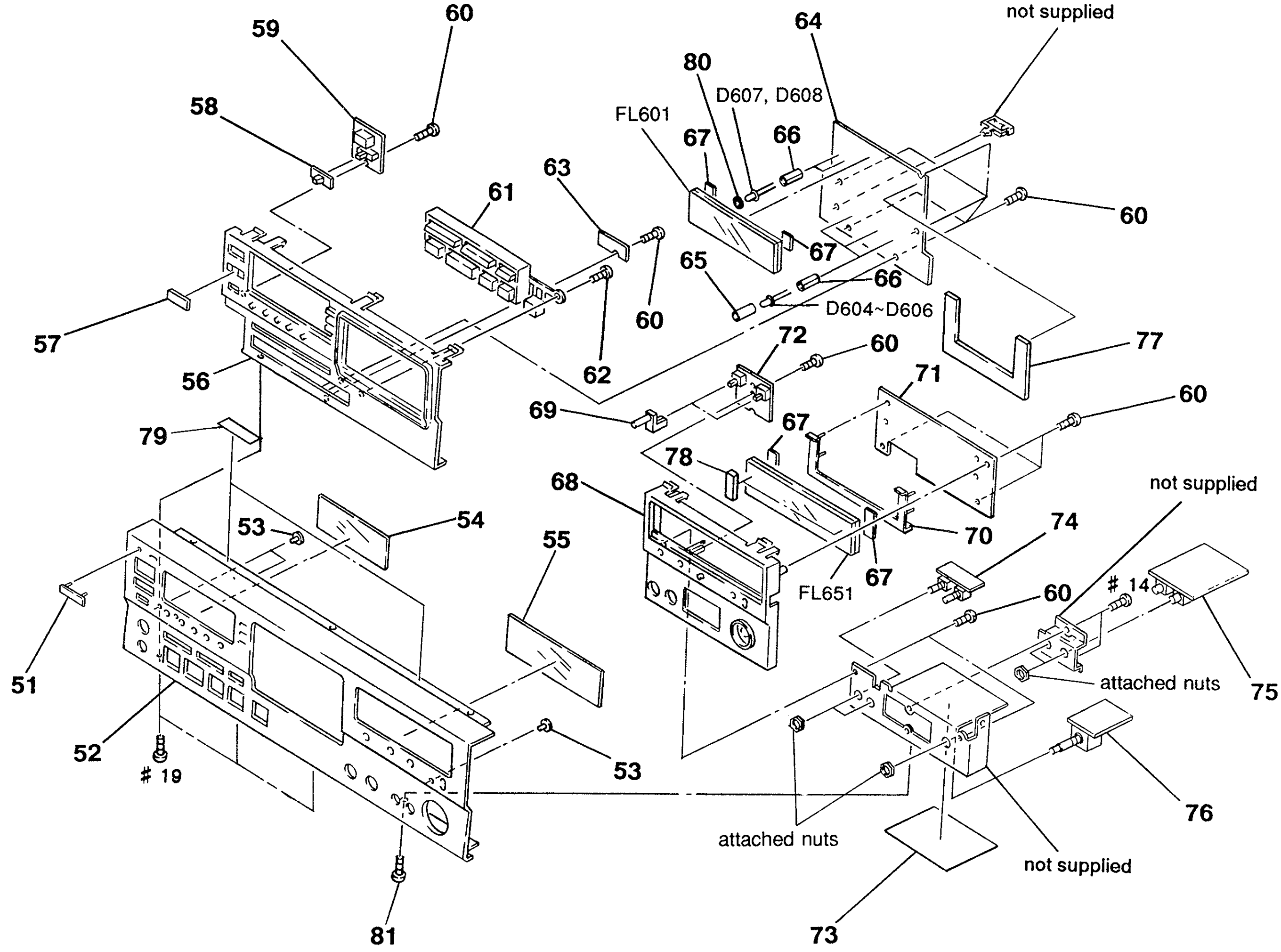
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1. CASE AND SIDE PANEL ASSEMBLY



Ref. No.	Part No.	Description	Remark
∗ 1	3-910-074-01	BOLT (M3) (GOLD)	
1	7-683-406-04	BOLT, HEXAGON SOCKET 3X12 (BLACK)	
2	3-909-241-01	BASE, ORNAMENTAL (GOLD)	
2	3-909-241-11	BASE, ORNAMENTAL (BLACK)	
3	4-936-615-01	PLATE (DAT LOGO), ORNAMENTAL (BLACK)	
3	4-936-615-11	PLATE (DAT LOGO), ORNAMENTAL (GOLD)	
4	3-906-274-01	PANEL (CASSETTE COMPARTMENT) (GOLD)	
4	3-906-274-11	PANEL (CASSETTE COMPARTMENT) (BLACK)	
5	X-3367-736-1	ESCUTCHEON ASSY (BLACK)	
5	X-3367-268-2	ESCUTCHEON ASSY (GOLD)	
6	3-909-242-01	SPACER	
7	X-3362-818-1	KNOB (DIA. 12) ASSY (B), FLAT (BLACK)	
7	X-3363-490-1	KNOB (DIA. 12) ASSY (B), FLAT (GOLD)	
8	X-3362-380-1	KNOB (REC-R) ASSY (BLACK)	
8	X-3363-175-1	KNOB (REC-R) ASSY (GOLD)	
9	X-3362-381-1	KNOB (REC-L) ASSY (BLACK)	
9	X-3363-176-1	KNOB (REC-L) ASSY (GOLD)	
10	3-701-506-01	SET SCREW, DOUBLE POINT 3X4	
11	3-354-931-01	KNOB (DIA. 10) (BLACK)	
11	3-354-931-31	KNOB (DIA. 10) (GOLD)	
12	3-354-981-01	SPRING (SUS), RING (BLACK)	
12	3-356-935-01	SPRING (GOLD)	
13	4-917-460-01	KNOB, POWER (BLACK)	
13	4-917-460-51	KNOB, POWER (GOLD)	
14	X-3304-970-1	PANEL (L) ASSY, SIDE (BLACK)	
14	X-3363-492-2	PANEL (L) ASSY, SIDE (GOLD) (AEP, G)	
15	4-885-979-11	SCREW (4X25) (AEP, G)	
∗ 16	3-908-784-11	CASE (GOLD)	
∗ 16	3-908-784-31	CASE (BLACK)	
17	3-704-366-01	SCREW (CASE) (M3X8) (BLACK)	
17	3-704-366-11	SCREW (CASE) (M3X8) (GOLD)	
18	4-923-474-01	RING, ORNAMENTAL (BLACK)	
18	4-923-474-11	RING, ORNAMENTAL (GOLD)	
19	X-3304-969-1	PANEL (R) ASSY, SIDE (BLACK)	
19	X-3363-493-2	PANEL (R) ASSY, SIDE (GOLD) (AEP, G)	
20	4-847-802-11	SCREW (US)	
21	X-4922-549-1	FOOT ASSY (BLACK)	
21	X-4941-711-1	FOOT ASSY (GOLD)	
22	3-703-685-21	SCREW (+BV 3X8)	
23	9-911-842-XX	CUSHION (S)	

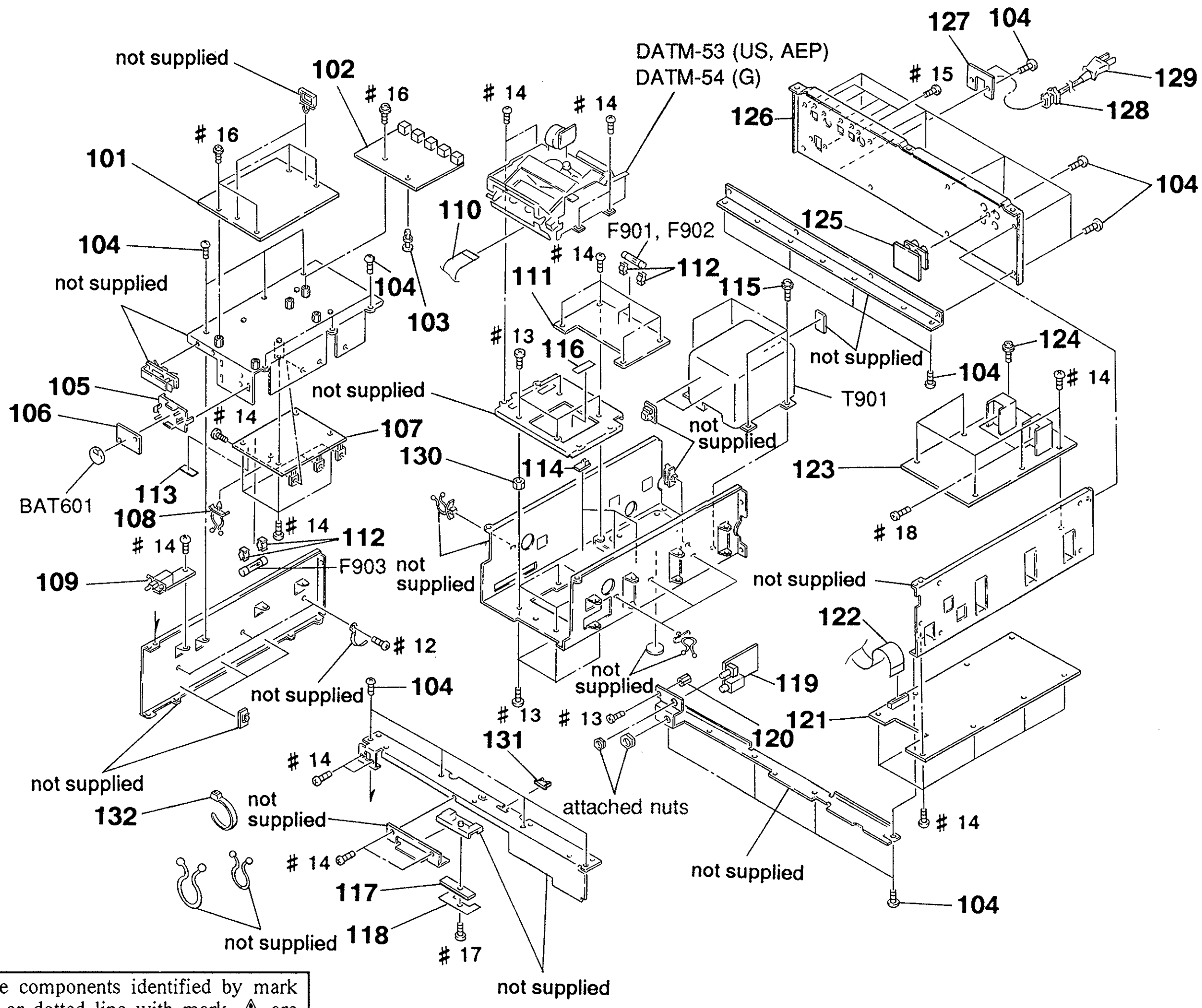
5-2. FRONT PANEL ASSEMBLY


59
60
64
not supplied
80
D607, D608
FL601
67
66
58
63
61
60
65
67
66
D604~D606
57
60
62
72
60
77
56
71
60
69
79
67
78
68
not supplied
53
54
55
74
70
FL651
67
60
# 14
51
attached nuts
75
52
# 19
53
76
attached nuts
not supplied
81
73

Ref. No.	Part No.	Description	Remark
51	4-942-568-01	EMBLEM (NO. 5), SONY (BLACK)	
51	4-942-568-11	EMBLEM (NO. 5), SONY (GOLD)	
52	3-906-267-01	PANEL, FRONT (GOLD) (AEP)	
52	3-906-267-11	PANEL, FRONT (BLACK) (AEP)	
52	3-906-267-21	PANEL, FRONT (GOLD) (US)	
52	3-906-267-31	PANEL, FRONT (BLACK) (G)	
52	3-906-267-41	PANEL, FRONT (GOLD) (G)	
53	4-925-327-01	INDICATOR	
54	3-906-269-01	WINDOW (ANALOG)	
55	3-906-268-01	WINDOW (DIGITAL)	
56	3-906-258-01	ESCUTCHEON (L) (GOLD)	
56	3-906-258-11	ESCUTCHEON (L) (BLACK)	
57	3-364-919-01	FILTER	
58	4-922-518-01	KNOB (TIMER) (BLACK)	
58	4-922-518-62	KNOB (TIMER) (GOLD)	
* 59	1-650-794-11	REMOTE CONTROL BOARD	
60	4-951-620-01	SCREW (2.6X8), +BVTP	
61	X-3367-267-1	BUTTON (MAIN) ASSY (GOLD)	
61	X-3367-735-1	BUTTON (MAIN) ASSY (BLACK)	
62	3-372-761-01	SCREW (M1.7X4), TAPPING	
* 63	1-650-793-11	EJECT SW BOARD	
* 64	A-2007-186-A	PANEL (L) BOARD, COMPLETE (AEP, G)	
* 64	A-2007-193-A	PANEL (L) BOARD, COMPLETE (US)	

Ref. No.	Part No.	Description	Remark
65	3-909-243-01	TUBE (LED), RUBBER	
* 66	4-911-676-41	SPACER, LED	
67	9-911-839-XX	CUSHION	
68	3-906-273-01	ESCUTCHEON (R) (GOLD)	
68	3-906-273-11	ESCUTCHEON (R) (BLACK)	
69	4-923-879-01	BUTTON (DIA. 4) (BLACK)	
69	4-923-879-31	BUTTON (DIA. 4) (GOLD)	
* 70	3-385-607-01	HOLDER, FL TUBE	
* 71	A-2007-083-A	PANEL (R) BOARD, COMPLETE (AEP, US)	
* 71	A-2007-187-A	PANEL (R) BOARD, COMPLETE (G)	
* 72	1-650-797-11	SMB SW BOARD	
* 73	3-908-785-01	SHEET (REC)	
* 74	1-650-799-11	MODE SW BOARD	
* 75	A-2007-097-A	MIC AMP BOARD, COMPLETE	
* 76	1-650-805-11	REC VOL BOARD	
* 77	3-908-782-01	HOLDER (FL TUBE)	
78	4-908-075-11	CUSHION (AEP, US)	
* 79	3-846-311-00	SPACER (D)	
80	3-661-784-00	TUBE (DIA. 6), RUBBER	
81	3-703-685-21	SCREW (+BV 3X8)	
FL601	1-517-271-11	INDICATOR TUBE, FLUORESCENT	
FL651	1-517-272-11	INDICATOR TUBE, FLUORESCENT	

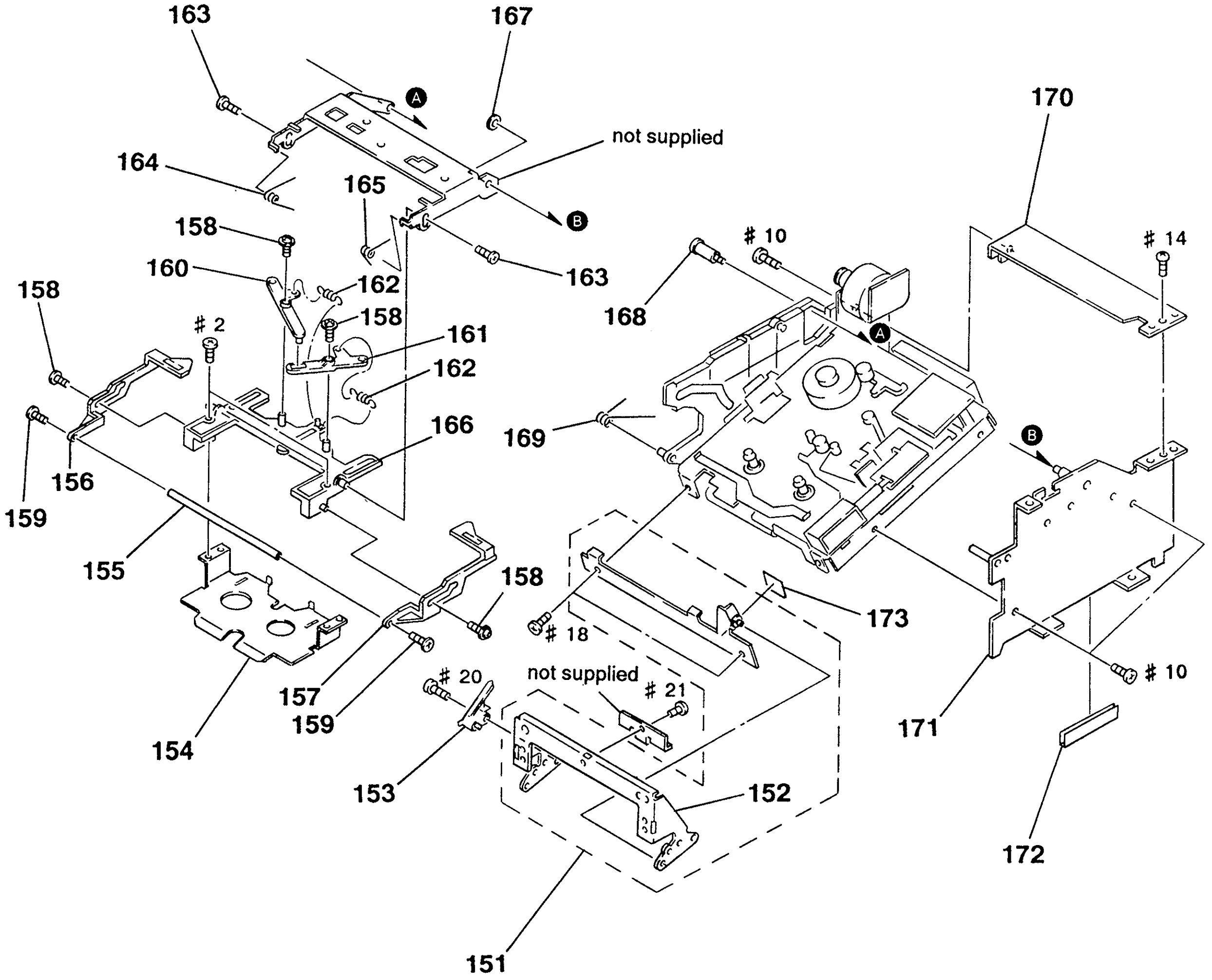
5-3. CHASSIS ASSEMBLY


not supplied
102
# 16
# 14
# 14
DATM-53 (US, AEP)
DATM-54 (G)
127
104
# 15
129
128
126
104
# 16
101
110
125
F901, F902
104
# 14
112
not supplied
104
111
115
103
124
# 13
116
not supplied
104
# 14
105
not supplied
T901
106
# 14
107
not
supplied
130
123
114
BAT601
113
108
# 14
112
# 18
# 14
F903
not
supplied
109
not supplied
122
# 12
not
supplied
119
not supplied
104
121
# 13
# 13
131
120
not supplied
# 14
132
not
supplied
attached nuts
# 14
# 14
not supplied
117
104
not supplied
118
# 17
not supplied

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 101	A-2007-092-A	MAIN BOARD, COMPLETE (AEP, US)	
* 101	A-2007-184-A	MAIN BOARD, COMPLETE (G)	
* 102	A-2007-091-A	D I/O BOARD, COMPLETE	
* 103	4-958-674-01	SPACER, MINIATURE CARD	
104	3-703-685-21	SCREW (+BV 3X8)	
* 105	3-382-640-11	HOLDER (BATTERY)	
* 106	1-650-800-11	BATTERY BOARD	
* 107	A-2007-087-A	POWER BOARD, COMPLETE (AEP, G)	
* 107	A-2007-234-A	POWER BOARD, COMPLETE (US)	
108	4-953-346-01	CLAMP, LEAD	
* 109	1-650-795-11	AC SW BOARD	
110	1-751-976-11	WIRE (FLAT TYPE) (17 CORE)	
* 111	A-2007-099-A	RECT BOARD, COMPLETE (US)	
* 111	A-2007-243-A	RECT BOARD, COMPLETE (AEP, G)	
* 112	1-533-293-11	FUSE HOLDER	
* 113	3-701-946-24	LABEL, FUSE RATING (US)	
* 114	4-617-314-01	CLAMP	
115	4-820-330-31	SCREW	
* 116	3-846-311-00	SPACER (D)	
* 117	1-650-798-11	LED BOARD	
118	3-908-888-01	SHEET (LED)	
* 119	1-650-808-11	HP BOARD	
* 120	3-718-661-01	SUPPORT, TC	
* 121	A-2007-245-A	DA BOARD, COMPLETE (US)	
* 121	A-2007-241-A	DA BOARD, COMPLETE (AEP, G)	
122	1-751-977-11	WIRE (FLAT TYPE) (23 CORE)	
* 123	A-2007-246-A	AD BOARD, COMPLETE (US)	
* 123	A-2007-242-A	AD BOARD, COMPLETE (AEP, G)	
124	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
* 125	1-650-807-11	PIN JACK BOARD	
* 126	3-906-265-21	PANEL, BACK (GOLD) (US)	
* 126	3-906-265-41	PANEL, BACK (GOLD) (AEP, G)	
* 126	3-906-265-31	PANEL, BACK (BLACK) (AEP, G)	
* 127	4-923-873-01	BRACKET, CORD STOPPER	
* 128	3-703-244-00	BUSHING (2104), CORD (AEP, G)	
128	4-916-783-01	BUSHING, CORD (US)	
⚠129	1-559-479-11	CORD, POWER (US)	
⚠129	1-575-912-11	CORD, POWER (AEP, G)	
130	3-908-776-01	SHAFT (MD LOWER)	
131	3-383-699-01	CLAMP (EDGE)	
132	3-655-653-21	BAND (TAITON), BINDING	
BAT601	1-528-229-11	BATTERY, LITHIUM CR-2450	
⚠F901	1-532-286-00	FUSE, TIME-LAG (2.5A, 250V) (AEP, G)	
⚠F901	1-532-744-11	FUSE, GLASS TUBE (2.5A, 125V) (US)	
⚠F902	1-532-286-00	FUSE, TIME-LAG (2.5A, 250V) (AEP, G)	
⚠F902	1-532-744-11	FUSE, GLASS TUBE (2.5A, 125V) (US)	
⚠F903	1-532-744-11	FUSE, GLASS TUBE (2.5A, 125V) (US)	
⚠T901	1-426-719-11	TRANSFORMER, POWER (AEP, G)	
⚠T901	1-426-796-11	TRANSFORMER, POWER (US)	

5-4. CASSETTE COMPARTMENT ASSEMBLY (1)


163
167
A
170
not supplied
164
165
B
158
160
162
163
# 10
# 14
168
158
161
A
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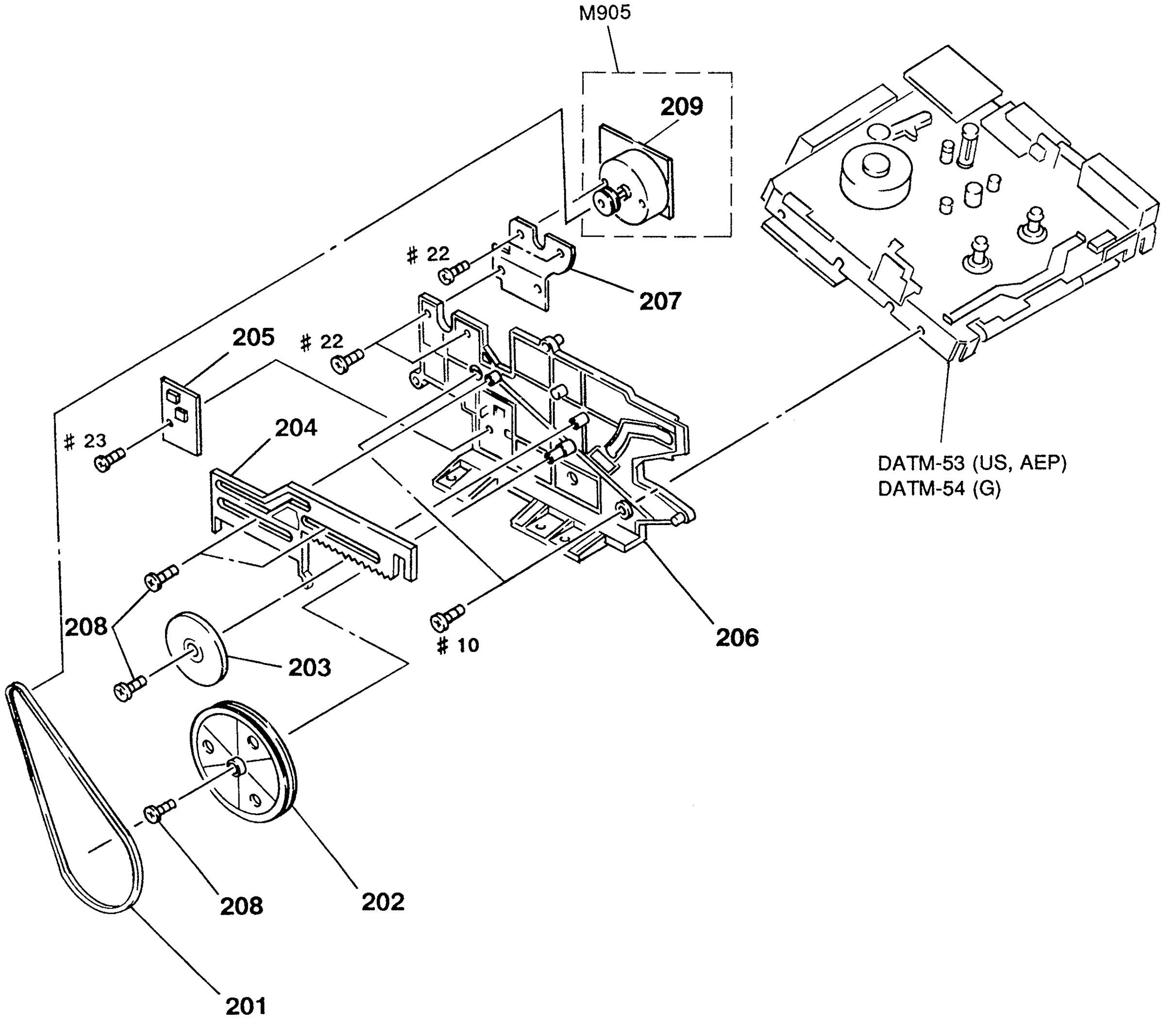
# 2
162
166
169
B
156
159
155
158
173
# 18
157
159
not supplied
# 20
# 21
# 10
171
154
153
152
172
151

Ref. No.	Part No.	Description	Remark
* 151	X-3367-635-1	PLATE ASSY, FULCRUM	
152	3-373-225-01	HOLDER (WINDOW)	
153	3-373-220-01	ARM (JOINT)	
154	3-373-224-01	HOLDER (LOWER)	
* 155	3-373-217-01	SHAFT (JOINT)	
156	3-373-223-01	SLIDER (L)	
157	3-373-222-01	SLIDER (R)	
158	3-318-201-11	SCREW (B)(1.4X3), TAPPING	
159	3-345-648-01	SCREW (M1.4X3.0), TOOTHED LOCK	
160	3-373-219-01	LEVER (L)	
161	3-373-218-01	LEVER (R)	
162	3-632-859-00	SPRING, BRAKE LEVER RETURN	
163	3-318-203-61	SCREW (B1.7X4), TAPPING	
164	3-373-216-01	SPRING (L), TORSION	
165	3-373-215-01	SPRING (R), TORSION	
166	3-373-237-03	HOLDER (UPPER), CASSETTE	
167	3-307-948-21	WASHER, NYLON	
168	4-931-471-01	SCREW (STEP)	
169	3-373-212-01	SPRING (CASSETTE)	
* 170	3-909-720-01	REINFORCEMENT	
* 171	X-3367-634-1	PLATE (R) ASSY, SIDE	
* 172	4-913-782-11	CUSHION (2), BUTTON	
173	3-908-780-01	SHEET	

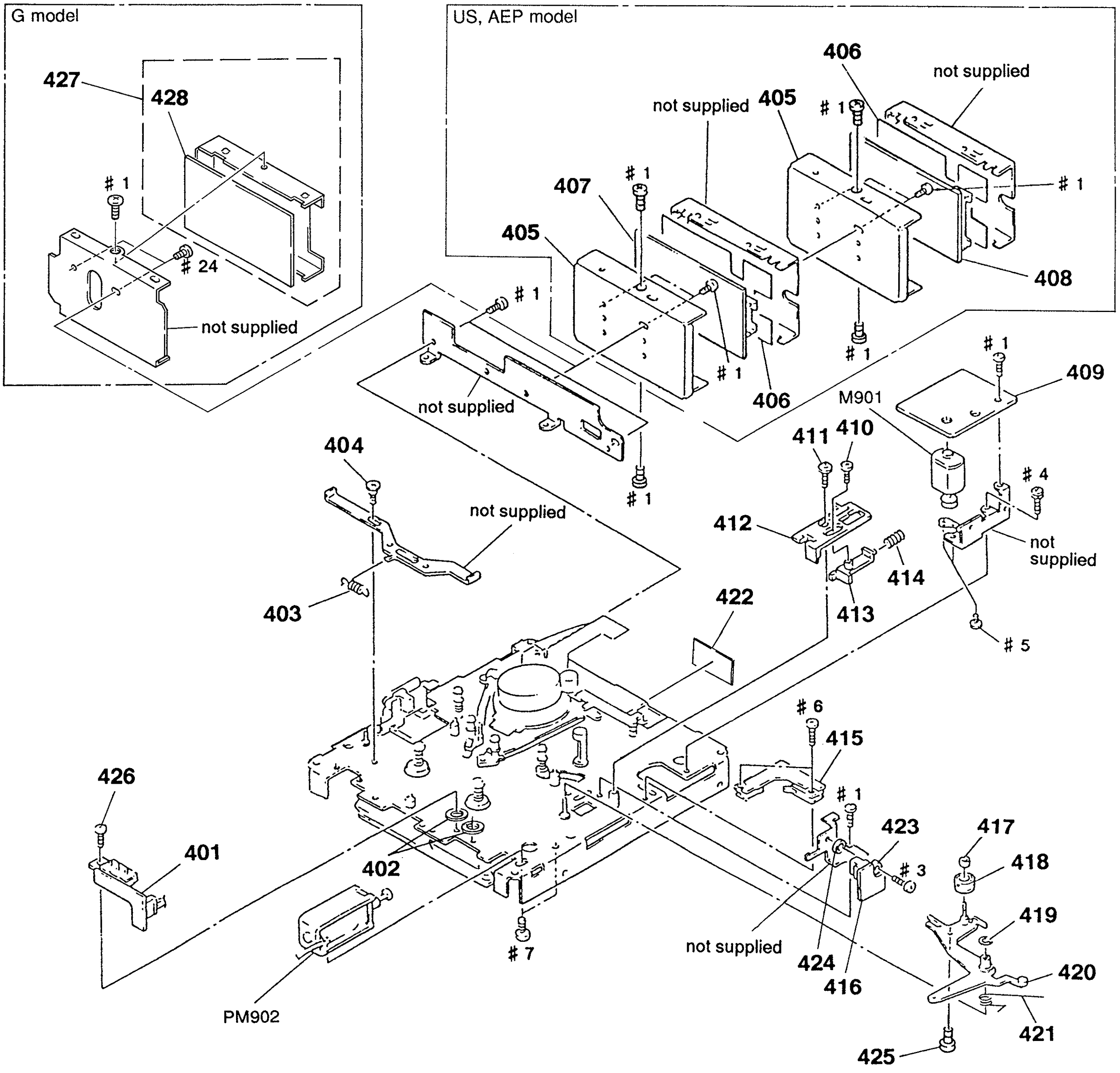
5-5. CASSETTE COMPARTMENT ASSEMBLY (2)


M905
209
# 22
207
205
# 22
# 23
204
DATM-53 (US, AEP)
DATM-54 (G)
208
203
# 10
206
208
202
201

Ref. No.	Part No.	Description	Remark
201	4-931-470-01	BELT (DRIVING)	
202	3-373-214-01	PULLEY	
203	3-373-213-01	GEAR, DRIVING	
* 204	X-3364-426-1	SLIDER ASSY	
* 205	1-641-487-11	CASSE-COM SW BOARD	

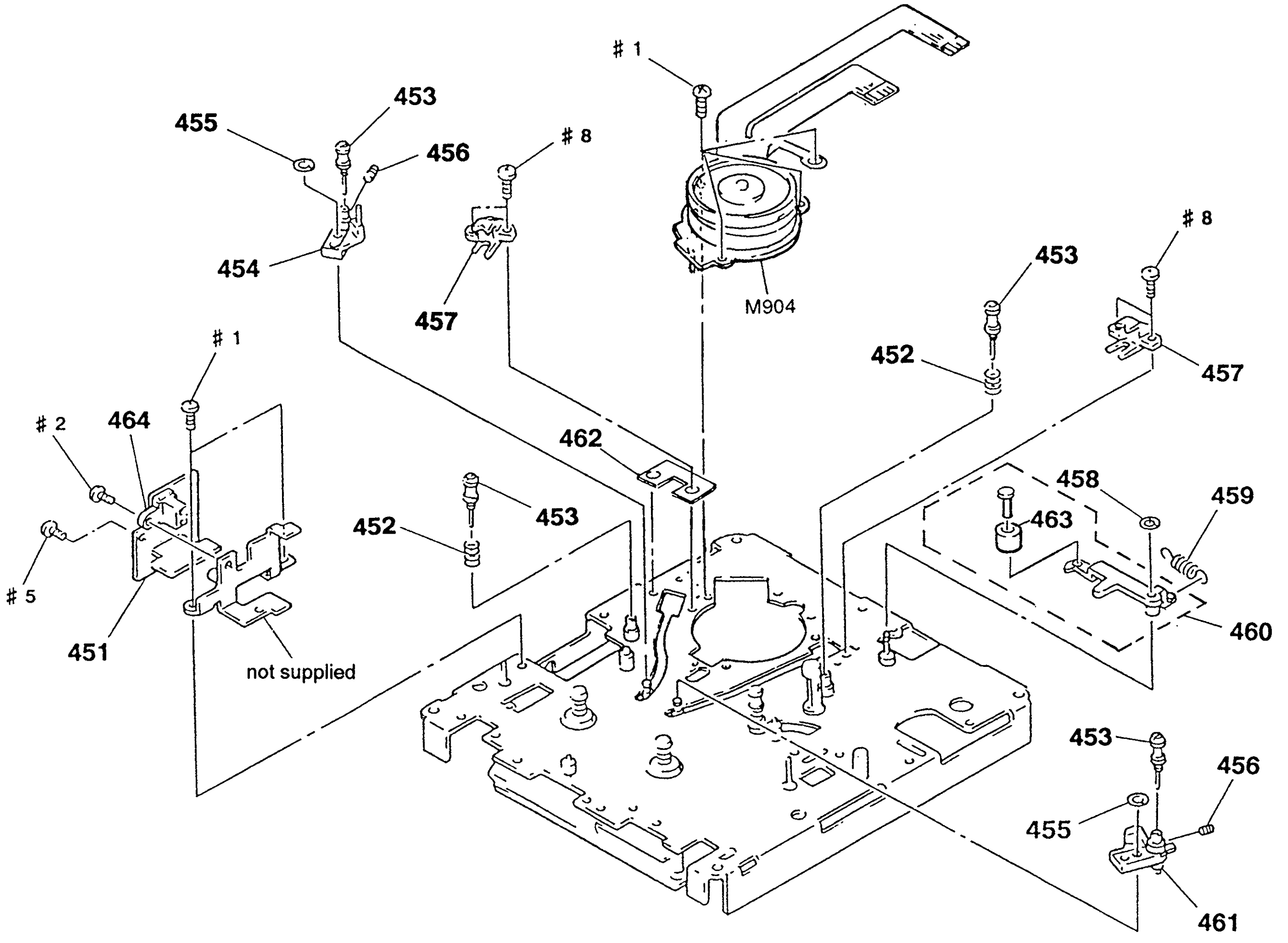
Ref. No.	Part No.	Description	Remark
206	3-373-234-05	CHASSIS (L)	
* 207	3-908-788-01	BRACKET (MOTOR)	
208	2-623-756-01	SCREW, (B1.7X3), TAPPING	
* 209	1-641-486-11	CASSE-COM MOTOR BOARD	
M905	A-2003-910-A	MOTOR ASSY, CASSETTE	

5-6. MECHANISM DECK ASSEMBLY (1)
(DATM-53: US, AEP model)
(DATM-54: G model)


G model
427
428
# 1
# 24
not supplied
US, AEP model
406
not supplied
not supplied
405
# 1
407
# 1
405
# 1
408
# 1
not supplied
# 1
# 1
406
# 1
409
M901
411
410
404
# 1
not supplied
# 4
412
not
supplied
414
422
403
413
# 5
# 6
415
426
# 1
423
417
401
418
402
# 3
419
# 7
not supplied
424
420
416
PM902
421
425

Ref. No.	Part No.	Description	Remark
* 401	1-650-814-11	CAS IN BOARD	
402	3-344-781-01	WASHER, POLYETHYLENE	
403	3-307-375-00	SPRING, TENSION	
404	3-312-161-00	SCREW, STEP, PRECISION	
* 405	3-337-686-11	CASE (LOWER), SHIELD (AEP, US)	
* 406	3-362-537-01	SHEET (RF) (AEP, US)	
* 407	A-2006-207-A	RF AMP (PB) BOARD, COMPLETE (AEP, US)	
* 408	A-2006-561-A	RF AMP (REC/PB) BOARD, COMPLETE (AEP, US)	
* 409	1-650-813-11	LOADING MOTOR BOARD	
410	2-623-756-01	SCREW, (B1.7X3), TAPPING	
411	3-703-502-11	SCREW	
412	3-362-148-01	SLIDER (PINCH)	
413	3-362-149-01	SLIDER (LIMITTER)	
414	3-564-035-00	SPRING, COMPRESSION	
* 415	1-650-811-11	LOAD SW BOARD	
* 416	1-650-812-11	T-END BOARD	
417	3-337-626-01	CAP, PINCH ROLLER	
418	X-3337-610-1	PINCH ROLLER ASSY	
419	3-701-436-11	WASHER, STOPPER	
420	X-3362-021-1	LEVER (PINCH ROLLER) ASSY	
421	3-367-352-01	SPRING (PINCH)	
422	3-366-886-01	SHEET (RF BRACKET)	
423	A-2004-299-A	DETECTION (R) ASSY, E	
* 424	4-913-524-01	SPACER, REST	
425	3-704-244-01	SCREW (P1.7X1.6)	
426	3-321-041-01	SCREW (M1.7X3.5), TAPPING	
* 427	A-2001-587-A	RF COMPLETE ASSY (G)	
* 428	A-2006-455-A	RF AMP BOARD, COMPLETE (G)	
M901	A-2004-301-A	MOTOR ASSY, CONTROL (LOADING)	
PM902	1-454-522-11	SOLENOID, PLUNGER (FWD)	

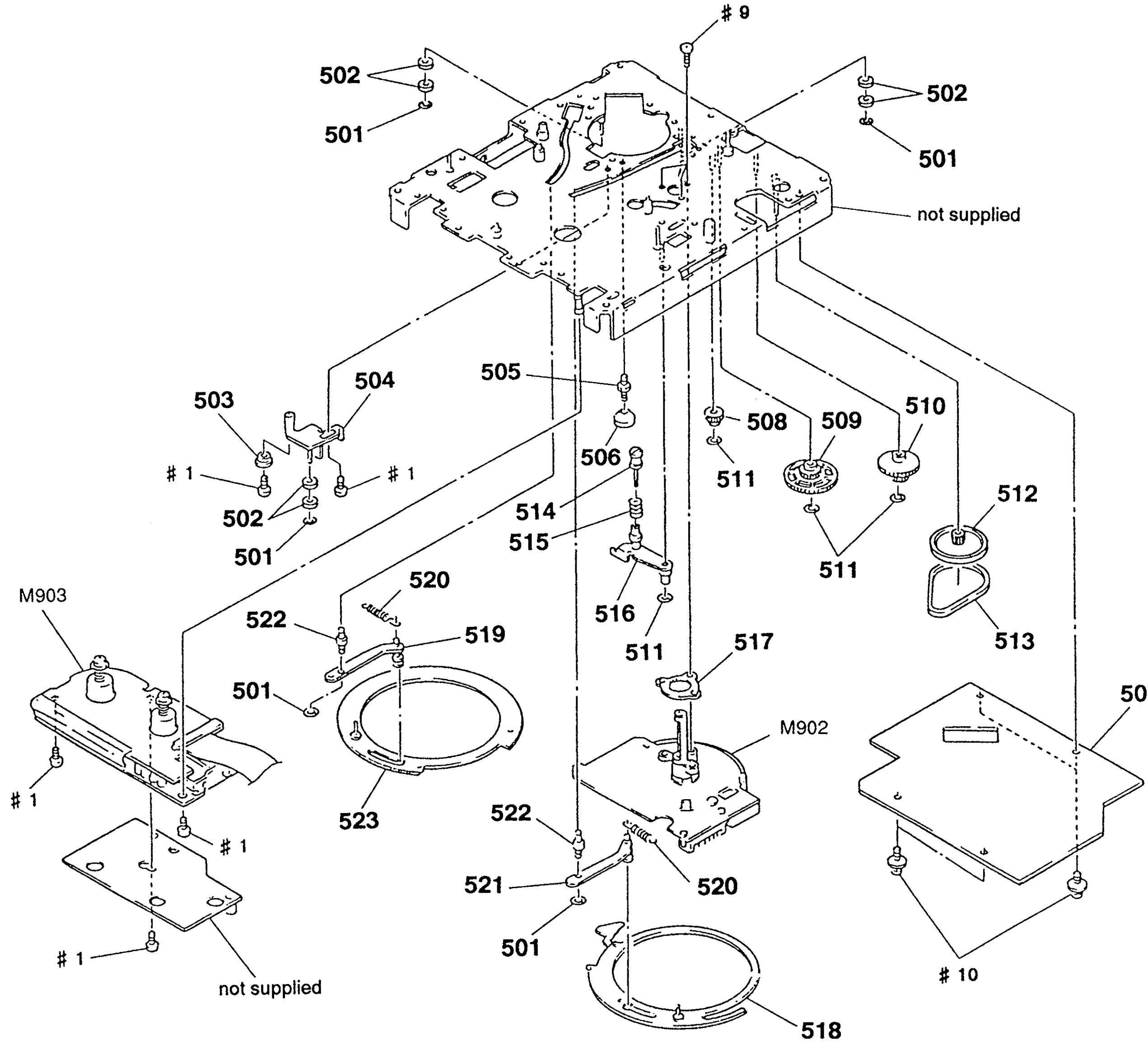
5-7. MECHANISM DECK ASSEMBLY (2)
(DATM-53: US, AEP model)
(DATM-54: G model)



# 1
455
453
456
# 8
454
457
M904
# 8
453
# 1
452
457
# 2
464
462
458
459
453
452
463
# 5
460
451
not supplied
453
456
455
461

Ref. No.	Part No.	Description	Remark
* 451	1-650-815-11	S-END BOARD	
452	3-573-470-00	SPRING, COMPRESSION	
453	X-3362-027-1	GUIDE ASSY, ROLLER	
454	X-3362-028-1	SLANT BLOCK (L2) ASSY	
455	3-341-752-11	WASHER, POLYETHYLENE	
456	3-362-152-01	SCREW (RETURN GUIDE BOSS)	
* 457	3-337-685-01	CATCHER (AEP, US)	
* 457	3-912-011-01	CATCHER (G)	
458	3-701-436-11	WASHER, STOPPER	
459	3-307-375-00	SPRING, TENSION	
460	A-2003-487-A	ARM (CLEANING) ASSY	
461	X-3362-029-1	SLANT BLOCK (R2) ASSY	
462	3-701-437-01	SHEET (CATCHER) (AEP, US)	
463	X-3337-655-1	ROLLER (CLEANER) ASSY	
464	A-2004-300-A	DETECTION (L) ASSY, E	
M904	8-848-549-11	DRUM ASSY (DOU-15A-R) (AEP, US)	
M904	8-848-626-01	DRUM ASSY (DOU-03D-R) (G)	

5-8. MECHANISM DECK ASSEMBLY (3)
(DATM-53: US, AEP model)
(DATM-54: G model)



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501
not supplied
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504
503
# 1
# 1
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506
508
509
510
511
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512
M903
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522
519
516
511
517
513
501
507
M902
# 1
523
522
521
520
# 1
501
# 10
# 1
not supplied
518

Ref. No.	Part No.	Description	Remark
501	3-559-408-11	WASHER, POLYETHYLENE, DIA. 1. 2	
502	3-337-622-01	ROLLER, RING	
* 503	3-362-158-01	COLLAR (RING ADJUSTMENT)	
* 504	X-3362-023-1	ARM (RING ROLLER) ASSY	
* 505	3-362-159-01	SHAFT (RING ADJUSTMENT)	
506	3-362-160-01	NUT (RING ADJUSTMENT)	
* 507	A-2007-075-A	MD BOARD, COMPLETE	
508	3-372-619-01	GEAR	
509	3-345-181-01	GEAR (LOADING A)	
510	3-362-155-01	GEAR (A)	
511	3-701-436-11	WASHER, STOPPER	
512	4-932-338-01	PULLEY (A)	
513	4-913-325-01	BELT, TAKE-UP	
514	X-3362-027-1	GUIDE ASSY, ROLLER	
515	3-573-470-00	SPRING, COMPRESSION	
* 516	X-3362-020-1	LEVER (F GUIDE) ASSY	
* 517	3-362-156-01	BRACKET (CAPSTAN)	
518	X-3362-204-1	GEAR (LOAD) ASSY	
* 519	X-3362-024-1	LEVER (LOADING L) ASSY	
520	3-337-653-01	SPRING, TENSION	
* 521	X-3362-025-1	LEVER (LOADING R) ASSY	
522	3-362-151-01	BOSS (GUIDE)	
523	X-3337-602-1	RING (LEFT) ASSY, LOADING	
M902	8-835-306-01	MOTOR, DC U-17A (CAPSTAN)	
* M903	8-835-205-01	MOTOR, DC U-2A (REEL)(included PM901)	

SECTION 6

ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts color Cabinet's color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- G: German model

Ref. No.	Part No.	Description			Remark
*	1-650-795-11	AC SW BOARD			
		***********			
		< CONNECTOR >			
CN945	1-564-321-00	PIN, CONNECTOR 2P			
		< SWITCH >			
⚠S901	1-572-267-21	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)			
**					
*	A-2007-242-A	AD BOARD, COMPLETE (AEP, G)			
		**************************			
*	A-2007-246-A	AD BOARD, COMPLETE (US)			
		**********************			
	2-259-121-01	SCREW, TR			
	4-902-345-01	HEAT SINK			
	7-621-772-18	SCREW +B 2X4			
		< BUS BAR >			
BB01	1-566-940-21	BUS BAR 3P			
* BB02	1-566-940-11	BUS BAR 6P			
		< CAPACITOR >			
C107	1-126-365-51	ELECT	100uF	20%	63V
C108	9-910-999-1B	FILM	0.02MF	3%	100V
C109	1-126-365-51	ELECT	100uF	20%	63V
C111	1-136-153-00	FILM	0.01uF	5%	50V
C207	1-126-365-51	ELECT	100uF	20%	63V
C208	9-910-999-1B	FILM	0.02MF	3%	100V
C209	1-126-365-51	ELECT	100uF	20%	63V
C211	1-136-153-00	FILM	0.01uF	5%	50V
C305	1-136-165-00	FILM	0.1uF	5%	50V
C306	1-124-915-11	ELECT	10uF	20%	63V
C307	1-136-165-00	FILM	0.1uF	5%	50V
C308	1-136-165-00	FILM	0.1uF	5%	50V
C309	1-136-165-00	FILM	0.1uF	5%	50V
C310	1-124-713-11	ELECT	470uF	20%	35V
C315	1-124-713-11	ELECT	470uF	20%	35V
C316	1-136-165-00	FILM	0.1uF	5%	50V
C317	1-136-165-00	FILM	0.1uF	5%	50V
C318	1-136-165-00	FILM	0.1uF	5%	50V
C321	1-124-484-11	ELECT	220uF	20%	35V
C322	1-161-379-00	CERAMIC	0.01uF	20%	25V
C323	1-162-282-31	CERAMIC	100PF	10%	50V
C324	1-136-165-00	FILM	0.1uF	5%	50V
C325	1-136-165-00	FILM	0.1uF	5%	50V
C326	1-107-048-00	MICA	6.8PF		500V
C327	1-107-048-00	MICA	6.8PF		500V
C328	1-107-026-00	MICA	5.1PF		500V
C329	1-107-026-00	MICA	5.1PF		500V
C330	1-107-202-00	MICA	10PF	5%	500V
C331	1-107-202-00	MICA	10PF	5%	500V
C332	1-136-165-00	FILM	0.1uF	5%	50V
C333	1-136-165-00	FILM	0.1uF	5%	50V
C334	1-136-165-00	FILM	0.1uF	5%	50V
C335	1-136-165-00	FILM	0.1uF	5%	50V
C336	1-136-165-00	FILM	0.1uF	5%	50V
C337	1-136-165-00	FILM	0.1uF	5%	50V
C338	1-126-329-11	ELECT	470uF	20%	50V
C339	1-126-329-11	ELECT	470uF	20%	50V
C340	1-124-918-11	ELECT	47uF	20%	63V
C341	1-124-918-11	ELECT	47uF	20%	63V
C342	1-107-210-00	MICA	22PF	5%	500V
C343	1-107-210-00	MICA	22PF	5%	500V
C344	1-124-922-11	ELECT	1000uF	20%	63V
C345	1-124-922-11	ELECT	1000uF	20%	63V
		< CONNECTOR >			
CN101	1-564-505-11	PLUG, CONNECTOR 2P			
* CN201	1-564-505-11	PLUG, CONNECTOR 2P			
* CN305	1-564-666-11	PIN, CONNECTOR 10P			
CN306	1-691-461-11	PIN, CONNECTOR (PC BOARD) 5P			
* CN307	1-564-338-00	PIN, CONNECTOR 4P			
CN308	1-564-104-00	PIN, CONNECTOR 3P			
CN309	1-564-104-00	PIN, CONNECTOR 3P			
CN318	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
		< DIODE >			
D101	8-719-987-63	DIODE	1N4148M		
D102	8-719-987-63	DIODE	1N4148M		
D103	8-719-987-63	DIODE	1N4148M		
D104	8-719-987-63	DIODE	1N4148M		
D201	8-719-987-63	DIODE	1N4148M		

Ref. No.	Part No.	Description	Remark
D202	8-719-987-63	DIODE 1N4148M	
D203	8-719-987-63	DIODE 1N4148M	
D204	8-719-987-63	DIODE 1N4148M	
D304	8-719-987-63	DIODE 1N4148M	
D308	8-719-987-63	DIODE 1N4148M	
D309	8-719-987-63	DIODE 1N4148M	
D310	8-719-987-63	DIODE 1N4148M	
D311	8-719-902-87	DIODE EQB01-08Q	
D312	8-719-902-87	DIODE EQB01-08Q	

< IC >

Ref. No.	Part No.	Description	Remark
IC102	8-759-602-83	IC M5238P	
IC103	8-759-504-50	IC LF412CN/SL161841	
IC202	8-759-602-83	IC M5238P	
IC203	8-759-504-50	IC LF412CN/SL161841	
IC301	8-759-196-20	IC CXD8493P	
IC304	8-759-925-72	IC SN74HC02ANS	
IC305	8-759-927-29	IC SN74HCU04ANS	
IC306	8-759-925-78	IC SN74HC10ANS	
IC307	8-759-925-90	IC SN74HC74ANS	
IC308	8-759-239-64	IC TC74HC590AF	
IC309	8-759-196-21	IC CXD8482Q	
IC330	8-759-231-53	IC TA7805S	
IC331	8-759-245-79	IC TA79005S	
IC332	8-759-231-53	IC TA7805S	

< COIL >

Ref. No.	Part No.	Description	Remark
L301	1-408-117-00	INDUCTOR 10uH	
L302	1-408-117-00	INDUCTOR 10uH	

< IC LINK >

Ref. No.	Part No.	Description	Remark
⚠PS301	1-532-637-00	LINK, IC ICP-N25 (1.0A)	
⚠PS302	1-532-637-00	LINK, IC ICP-N25 (1.0A)	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q310	8-729-224-63	TRANSISTOR 2SK246-BL	
Q311	8-729-224-63	TRANSISTOR 2SK246-BL	
Q312	8-729-803-82	TRANSISTOR 2SC3468-E	
Q313	8-729-803-76	TRANSISTOR 2SA1371-E	
Q314	8-729-127-53	TRANSISTOR 2SC2275-P	
Q315	8-729-141-10	TRANSISTOR 2SA985A-QP	
Q316	8-729-803-76	TRANSISTOR 2SA1371-E	
Q317	8-729-803-82	TRANSISTOR 2SC3468-E	
Q318	8-729-803-82	TRANSISTOR 2SC3468-E	
Q319	8-729-803-76	TRANSISTOR 2SA1371-E	
Q335	8-729-900-61	TRANSISTOR DTA114ES	
Q336	8-729-900-80	TRANSISTOR DTC114ES	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R117	1-246-545-00	CARBON 1.0M 5% 1/4W	
R118	1-247-717-11	CARBON 2.2K 5% 1/4W F	
R119	1-249-579-91	CARBON 13K 5% 1/4W	
R120	1-249-920-11	CARBON 750 1% 1/4W	
R121	1-246-545-00	CARBON 1.0M 5% 1/4W	
R122	1-249-469-11	CARBON 100K 5% 1/4W	
R125	1-247-721-11	CARBON 4.7K 5% 1/4W	
R126	1-247-721-11	CARBON 4.7K 5% 1/4W	
R130	1-249-520-11	CARBON 47 5% 1/4W	
R131	1-249-520-11	CARBON 47 5% 1/4W	
R217	1-246-545-00	CARBON 1.0M 5% 1/4W	
R218	1-247-717-11	CARBON 2.2K 5% 1/4W F	
R219	1-249-579-91	CARBON 13K 5% 1/4W	
R220	1-249-920-11	CARBON 750 1% 1/4W	
R221	1-246-545-00	CARBON 1.0M 5% 1/4W	
R222	1-249-469-11	CARBON 100K 5% 1/4W	
R225	1-247-721-11	CARBON 4.7K 5% 1/4W	
R226	1-247-721-11	CARBON 4.7K 5% 1/4W	
R230	1-249-520-11	CARBON 47 5% 1/4W	
R231	1-249-520-11	CARBON 47 5% 1/4W	
R316	1-259-428-11	CARBON 1K 5% 1/6W	
R317	1-259-500-11	CARBON 1M 5% 1/6W	
R318	1-259-428-11	CARBON 1K 5% 1/6W	
R319	1-259-500-11	CARBON 1M 5% 1/6W	
R320	1-259-428-11	CARBON 1K 5% 1/6W	
R321	1-259-500-11	CARBON 1M 5% 1/6W	
R322	1-259-396-11	CARBON 47 5% 1/6W	
R323	1-259-404-11	CARBON 100 5% 1/6W	(AEP,G)
R323	1-424-033-11	FILTER, NOISE	(US)
R324	1-259-404-11	CARBON 100 5% 1/6W	
R325	1-259-404-11	CARBON 100 5% 1/6W	
R326	1-259-404-11	CARBON 100 5% 1/6W	
R327	1-259-404-11	CARBON 100 5% 1/6W	
R328	1-259-404-11	CARBON 100 5% 1/6W	
R332	1-247-704-11	CARBON 220 5% 1/4W	
R333	1-247-704-11	CARBON 220 5% 1/4W	
R334	1-249-466-11	CARBON 56K 5% 1/4W	
R335	1-249-466-11	CARBON 56K 5% 1/4W	
R336	1-247-719-11	CARBON 3.3K 5% 1/4W	
R337	1-247-719-11	CARBON 3.3K 5% 1/4W	
R338	1-249-798-11	CARBON 680 5% 1/2W	
R339	1-249-798-11	CARBON 680 5% 1/2W	
R340	1-247-751-11	CARBON 820 5% 1/2W	
R341	1-247-751-11	CARBON 820 5% 1/2W	
R344	1-259-416-11	CARBON 330 5% 1/6W	
R345	1-259-396-11	CARBON 47 5% 1/6W	
R346	1-259-428-11	CARBON 1K 5% 1/6W	
R347	1-259-420-11	CARBON 470 5% 1/6W	
R348	1-259-420-11	CARBON 470 5% 1/6W	
R378	1-259-426-11	CARBON 820 5% 1/6W	
R392	1-259-404-11	CARBON 100 5% 1/6W	(AEP,G)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
R392	1-424-033-11	FILTER, NOISE (US)	
		< RELAY >	
RY302	1-515-804-11	RELAY	
		< VIBRATOR >	
X301	1-567-814-11	VIBRATOR, CRYSTAL (24.576MHz)	
X302	1-567-815-11	VIBRATOR, CRYSTAL (22.5792MHz)	
X303	1-760-146-11	VIBRATOR, CRYSTAL (16.384MHz)	
**			
*	1-650-800-11	BATTERY BOARD *************	
		< BATTERY >	
BT601	1-528-229-11	BATTERY, LITHIUM (CR-2450)	
		< CONNECTOR >	
* CN606	1-564-496-11	PIN, CONNECTOR 3P	
* CN608	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P	
		< RESISTOR >	
R645	1-249-429-11	CARBON 10K 5% 1/4W	
**			
*	1-650-814-11	CAS IN BOARD ************	
		< SWITCH >	
S901	1-572-459-11	SWITCH, PUSH (REC PROOF/CASSETTE IN)	
**			
*	1-641-486-11	CASSE-COM MOTOR BOARD ********************	
		< CAPACITOR >	
C1	1-162-851-11	CERAMIC 0.1MF 16V	
		< CONNECTOR >	
* CN1	1-564-498-11	PIN, CONNECTOR 5P	
* CN2	1-564-337-00	PIN, CONNECTOR 3P	
**			

Ref.No.	Part No.	Description	Remark
*	1-641-487-11	CASSE-COM SW BOARD ******************	
		< SWITCH >	
S1	1-571-958-11	SWITCH, PUSH (1 KEY)(CASSETTE TABLE OUT)	
S2	1-571-958-11	SWITCH, PUSH (1 KEY)(CASSETTE TABLE IN)	
**			
*	A-2007-091-A	D I/O BOARD, COMPLETE ********************	
		< CAPACITOR >	
C501	1-130-483-00	MYLAR 0.01uF 5% 50V	
C502	1-130-483-00	MYLAR 0.01uF 5% 50V	
C503	1-130-483-00	MYLAR 0.01uF 5% 50V	
C504	1-130-483-00	MYLAR 0.01uF 5% 50V	
C505	1-162-279-31	CERAMIC 75PF 10% 50V	
C507	1-162-211-31	CERAMIC 33PF 5% 50V	
C508	1-130-483-00	MYLAR 0.01uF 5% 50V	
C509	1-124-907-11	ELECT 10uF 20% 50V	
C510	1-130-483-00	MYLAR 0.01uF 5% 50V	
C511	1-136-165-00	FILM 0.1uF 5% 50V	
C550	1-126-924-11	ELECT 330uF 20% 6.3V	
C551	1-126-924-11	ELECT 330uF 20% 6.3V	
C552	1-126-924-11	ELECT 330uF 20% 6.3V	
C553	1-126-924-11	ELECT 330uF 20% 6.3V	
C554	1-126-924-11	ELECT 330uF 20% 6.3V	
C555	1-164-159-11	CERAMIC 0.1uF 50V	
C556	1-164-159-11	CERAMIC 0.1uF 50V	
C557	1-164-159-11	CERAMIC 0.1uF 50V	
C558	1-164-159-11	CERAMIC 0.1uF 50V	
C559	1-164-159-11	CERAMIC 0.1uF 50V	
C560	1-164-159-11	CERAMIC 0.1uF 50V	
C561	1-164-159-11	CERAMIC 0.1uF 50V	
C562	1-164-159-11	CERAMIC 0.1uF 50V	
C563	1-164-159-11	CERAMIC 0.1uF 50V	
C564	1-164-159-11	CERAMIC 0.1uF 50V	
C566	1-164-159-11	CERAMIC 0.1uF 50V	
C567	1-164-159-11	CERAMIC 0.1uF 50V	
		< CONNECTOR >	
* CN501	1-564-712-11	PIN, CONNECTOR (SMALL TYPE)10P	
* CN502	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
* CN503	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
		< IC >	
IC501	8-759-242-84	IC TORX176	
IC502	8-759-242-84	IC TORX176	
IC503	8-759-242-85	IC TOTX176	
IC504	8-759-916-12	IC SN74HC00AN	

Ref.No.	Part No.	Description	Remark
IC505	8-759-916-12	IC SN74HC00AN	
IC506	8-759-916-12	IC SN74HC00AN	
IC507	8-759-916-18	IC SN74HC10AN	
IC508	8-759-916-12	IC SN74HC00AN	
IC509	8-759-135-80	IC UPC358C	
IC510	8-759-917-18	IC SN74HCU04AN	
IC511	8-759-032-81	IC MC74HC74AN	
		< JACK >	
J501	1-764-414-11	JACK, PIN (DIGITAL IN)	
J502	1-764-413-11	JACK, PIN (DIGITAL OUT)	
		< COIL >	
L501	1-408-068-00	INDUCTOR 33uH	
L502	1-408-068-00	INDUCTOR 33uH	
L503	1-408-068-00	INDUCTOR 33uH	
L504	1-236-129-11	ENCAPSULATED COMPONENT	
L505	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
L506	1-236-129-11	ENCAPSULATED COMPONENT	
L507	1-236-129-11	ENCAPSULATED COMPONENT	
L508	1-408-068-00	INDUCTOR 33uH	
		< PLATE, GROUND >	
* P501	4-942-204-01	PLATE, GROUND	
		< RESISTOR >	
R501	1-249-437-11	CARBON 47K 5% 1/4W	
R502	1-249-437-11	CARBON 47K 5% 1/4W	
R503	1-249-437-11	CARBON 47K 5% 1/4W	
R504	1-247-804-11	CARBON 75 5% 1/4W	
R505	1-249-409-11	CARBON 220 5% 1/4W	F
R506	1-247-804-11	CARBON 75 5% 1/4W	
R507	1-249-426-11	CARBON 5.6K 5% 1/4W	
R508	1-249-417-11	CARBON 1K 5% 1/4W	F
R509	1-249-417-11	CARBON 1K 5% 1/4W	F
R510	1-249-429-11	CARBON 10K 5% 1/4W	
R511	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R512	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R513	1-249-435-11	CARBON 33K 5% 1/4W	
R514	1-249-429-11	CARBON 10K 5% 1/4W	
R515	1-249-429-11	CARBON 10K 5% 1/4W	
R698	1-247-739-11	CARBON 100 5% 1/2W	
R699	1-247-739-11	CARBON 100 5% 1/2W	
		< TRANSFORMER >	
T501	1-459-795-11	COIL (WITH CORE)	

****

Ref.No.	Part No.	Description	Remark
*	A-2007-241-A	DA BOARD, COMPLETE (AEP,G) **************************	
*	A-2007-245-A	DA BOARD, COMPLETE (US) ***********************	
		< BUS BAR >	
* BB04	1-691-275-11	BUS BAR	
BB05	1-566-940-21	BUS BAR 3P	
BB06	1-566-940-21	BUS BAR 3P	
BB07	1-566-940-21	BUS BAR 3P	
BB08	1-566-940-21	BUS BAR 3P	
		< CAPACITOR >	
C112	1-124-122-11	ELECT 100uF 20% 50V	
C113	1-136-165-00	FILM 0.1uF 5% 50V	
C114	1-136-165-00	FILM 0.1uF 5% 50V	
C115	1-124-122-11	ELECT 100uF 20% 50V	
C116	1-136-165-00	FILM 0.1uF 5% 50V	
C117	1-124-122-11	ELECT 100uF 20% 50V	
C118	1-136-165-00	FILM 0.1uF 5% 50V	
C119	1-136-165-00	FILM 0.1uF 5% 50V	
C120	1-124-122-11	ELECT 100uF 20% 50V	
C121	1-136-165-00	FILM 0.1uF 5% 50V	
C122	1-136-165-00	FILM 0.1uF 5% 50V	
C123	1-136-165-00	FILM 0.1uF 5% 50V	
C124	1-124-122-11	ELECT 100uF 20% 50V	
C125	1-136-165-00	FILM 0.1uF 5% 50V	
C126	1-124-122-11	ELECT 100uF 20% 50V	
C127	1-136-165-00	FILM 0.1uF 5% 50V	
C128	1-136-165-00	FILM 0.1uF 5% 50V	
C129	1-136-810-11	FILM 220PF 5% 100V	
C130	1-136-810-11	FILM 220PF 5% 100V	
C131	1-136-810-11	FILM 220PF 5% 100V	
C132	1-136-810-11	FILM 220PF 5% 100V	
C133	1-136-811-11	FILM 330PF 5% 100V	
C134	1-136-811-11	FILM 330PF 5% 100V	
C135	1-136-253-11	FILM 0.0018uF 5% 100V	
C136	1-136-253-11	FILM 0.0018uF 5% 100V	
C137	1-136-253-11	FILM 0.0018uF 5% 100V	
C138	1-136-177-00	FILM 1uF 5% 50V	
C140	1-107-202-00	MICA 10PF 5% 500V	
C180	9-910-999-1B	FILM 0.02MF 3% 100V	
C212	1-124-122-11	ELECT 100uF 20% 50V	
C213	1-136-165-00	FILM 0.1uF 5% 50V	
C214	1-136-165-00	FILM 0.1uF 5% 50V	
C215	1-124-122-11	ELECT 100uF 20% 50V	
C216	1-136-165-00	FILM 0.1uF 5% 50V	
C217	1-124-122-11	ELECT 100uF 20% 50V	
C218	1-136-165-00	FILM 0.1uF 5% 50V	
C219	1-136-165-00	FILM 0.1uF 5% 50V	

DA

Ref. No.	Part No.	Description			Remark
C220	1-124-122-11	ELECT	100uF	20%	50V
C221	1-136-165-00	FILM	0.1uF	5%	50V
C222	1-136-165-00	FILM	0.1uF	5%	50V
C223	1-136-165-00	FILM	0.1uF	5%	50V
C224	1-124-122-11	ELECT	100uF	20%	50V
C225	1-136-165-00	FILM	0.1uF	5%	50V
C226	1-124-122-11	ELECT	100uF	20%	50V
C227	1-136-165-00	FILM	0.1uF	5%	50V
C228	1-136-165-00	FILM	0.1uF	5%	50V
C229	1-136-810-11	FILM	220PF	5%	100V
C230	1-136-810-11	FILM	220PF	5%	100V
C231	1-136-810-11	FILM	220PF	5%	100V
C232	1-136-810-11	FILM	220PF	5%	100V
C233	1-136-811-11	FILM	330PF	5%	100V
C234	1-136-811-11	FILM	330PF	5%	100V
C235	1-136-253-11	FILM	0.0018uF	5%	100V
C236	1-136-253-11	FILM	0.0018uF	5%	100V
C237	1-136-253-11	FILM	0.0018uF	5%	100V
C238	1-136-177-00	FILM	1uF	5%	50V
C240	1-107-202-00	MICA	10PF	5%	500V
C280	9-910-999-1B	FILM	0.02MF	3%	100V
C346	1-124-122-11	ELECT	100uF	20%	50V
C347	1-136-165-00	FILM	0.1uF	5%	50V
C348	1-124-910-11	ELECT	47uF	20%	50V
C349	1-136-165-00	FILM	0.1uF	5%	50V
C350	1-124-122-11	ELECT	100uF	20%	50V
C351	1-136-165-00	FILM	0.1uF	5%	50V
C352	1-136-165-00	FILM	0.1uF	5%	50V
C353	1-136-165-00	FILM	0.1uF	5%	50V
C354	1-124-122-11	ELECT	100uF	20%	50V
C355	1-136-157-00	FILM	0.022uF	5%	50V
C356	1-136-173-00	FILM	0.47uF	5%	50V
C357	1-136-153-00	FILM	0.01uF	5%	50V
C358	1-107-037-00	MICA	82PF	5%	500V
C359	1-107-202-00	MICA	10PF	5%	500V
C360	1-124-122-11	ELECT	100uF	20%	50V
C361	1-107-159-00	MICA	33PF	5%	500V
C362	1-107-202-00	MICA	10PF	5%	500V
C363	1-136-157-00	FILM	0.022uF	5%	50V
C364	1-124-122-11	ELECT	100uF	20%	50V
C365	1-136-157-00	FILM	0.022uF	5%	50V
C366	1-136-157-00	FILM	0.022uF	5%	50V
C367	1-126-365-51	ELECT	100uF	20%	63V
C368	1-126-365-51	ELECT	100uF	20%	63V
C369	1-124-122-11	ELECT	100uF	20%	50V
C370	1-136-165-00	FILM	0.1uF	5%	50V
C371	1-107-822-51	ELECT	1000uF	20%	42V
C380	1-136-153-00	FILM	0.01uF	5%	50V
C381	1-136-165-00	FILM	0.1uF	5%	50V
C389	1-136-165-00	FILM	0.1uF	5%	50V
C390	1-136-165-00	FILM	0.1uF	5%	50V
C397	1-136-165-00	FILM	0.1uF	5%	50V
C398	1-136-165-00	FILM	0.1uF	5%	50V
C399	1-161-379-00	CERAMIC	0.01uF	20%	25V
		< CONNECTOR >			
CN311	1-764-589-11	SOCKET, CONNECTOR 23P			
* CN313	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CN314	1-691-461-11	PIN, CONNECTOR (PC BOARD) 5P			
CN316	1-691-766-11	PLUG (MICRO CONNECTOR) 4P			
CN317	1-691-766-31	PLUG (MICRO CONNECTOR) 4P			
CN350	1-564-506-11	PLUG, CONNECTOR 3P			
		< DIODE >			
D150	8-719-987-63	DIODE	1N4148M		
D250	8-719-987-63	DIODE	1N4148M		
D313	8-719-114-27	DIODE	RD4.7JSB3		
D314	8-719-987-63	DIODE	1N4148M		
D315	8-719-936-68	DIODE	KV1260		
D316	8-719-114-30	DIODE	RD5.1JSB2		
D317	8-719-987-63	DIODE	1N4148M		
D350	8-719-987-63	DIODE	1N4148M		
D390	8-719-987-63	DIODE	1N4148M		
		< IC >			
IC104	8-759-044-10	IC	CXD2562Q		
IC105	8-759-900-72	IC	NE5532P		
IC106	8-759-900-72	IC	NE5532P		
IC107	8-759-900-72	IC	NE5532P		
IC108	8-759-900-72	IC	NE5532P		
IC204	8-759-044-10	IC	CXD2562Q		
IC205	8-759-900-72	IC	NE5532P		
IC206	8-759-900-72	IC	NE5532P		
IC207	8-759-900-72	IC	NE5532P		
IC208	8-759-900-72	IC	NE5532P		
IC310	8-752-356-03	IC	CXD2567M-T6		
IC311	8-759-917-18	IC	SN74HCU04AN		
IC312	8-759-925-90	IC	SN74HC74ANS		
IC313	8-759-926-23	IC	SN74HC163ANS		
IC314	8-752-306-51	IC	CX23065A		
IC315	8-759-927-29	IC	SN74HCU04ANS		
IC316	8-759-900-72	IC	NE5532P		
IC320	8-759-241-15	IC	TC74HC242AF-TP2		
IC399	8-759-520-90	IC	PST572E		
		< COIL >			
L303	1-426-850-11	COIL (RF)			
L304	1-408-117-00	INDUCTOR	10uH		
L310	1-408-117-00	INDUCTOR	10uH		

< TRANSISTOR >

Ref. No.	Part No.	Description		Remark
Q107	8-729-204-90	TRANSISTOR	2SK246-GR1	
Q108	8-729-184-52	TRANSISTOR	2SC1845-FA	
Q109	8-729-184-52	TRANSISTOR	2SC1845-FA	
Q110	8-729-204-90	TRANSISTOR	2SK246-GR1	
Q111	8-729-321-35	TRANSISTOR	2SK213	
Q112	8-729-307-65	TRANSISTOR	2SJ76	
Q113	8-729-107-85	TRANSISTOR	2SC3623A-K	
Q114	8-729-900-61	TRANSISTOR	DTA114ES	
Q150	8-729-900-80	TRANSISTOR	DTC114ES	
Q151	8-729-900-61	TRANSISTOR	DTA114ES	
Q207	8-729-204-90	TRANSISTOR	2SK246-GR1	
Q208	8-729-184-52	TRANSISTOR	2SC1845-FA	
Q209	8-729-184-52	TRANSISTOR	2SC1845-FA	
Q210	8-729-204-90	TRANSISTOR	2SK246-GR1	
Q211	8-729-321-35	TRANSISTOR	2SK213	
Q212	8-729-307-65	TRANSISTOR	2SJ76	
Q213	8-729-107-85	TRANSISTOR	2SC3623A-K	
Q214	8-729-900-61	TRANSISTOR	DTA114ES	
Q250	8-729-900-80	TRANSISTOR	DTC114ES	
Q251	8-729-900-61	TRANSISTOR	DTA114ES	
Q320	8-729-900-80	TRANSISTOR	DTC114ES	
Q321	8-729-900-61	TRANSISTOR	DTA114ES	
Q322	8-729-900-80	TRANSISTOR	DTC114ES	
Q323	8-729-900-61	TRANSISTOR	DTA114ES	
Q325	8-729-127-53	TRANSISTOR	2SC2275-P	
Q326	8-729-620-05	TRANSISTOR	2SC2603-EF	
Q327	8-729-620-05	TRANSISTOR	2SC2603-EF	
Q328	8-729-620-05	TRANSISTOR	2SC2603-EF	
Q329	8-729-200-56	TRANSISTOR	2SK241-GR	
Q330	8-729-200-56	TRANSISTOR	2SK241-GR	
Q331	8-729-204-90	TRANSISTOR	2SK246-GR1	
Q332	8-729-127-53	TRANSISTOR	2SC2275-P	
Q333	8-729-900-61	TRANSISTOR	DTA114ES	
Q334	8-729-900-80	TRANSISTOR	DTC114ES	
Q399	8-729-900-80	TRANSISTOR	DTC114ES	

< RESISTOR >

Ref. No.	Part No.	Description				Remark
R132	1-249-947-11	CARBON	10K	1%	1/4W	
R133	1-249-947-11	CARBON	10K	1%	1/4W	
R134	1-249-947-11	CARBON	10K	1%	1/4W	
R135	1-249-947-11	CARBON	10K	1%	1/4W	
R136	1-249-947-11	CARBON	10K	1%	1/4W	
R137	1-249-947-11	CARBON	10K	1%	1/4W	
R138	1-249-947-11	CARBON	10K	1%	1/4W	
R139	1-249-947-11	CARBON	10K	1%	1/4W	
R140	1-249-944-11	CARBON	7.5K	1%	1/4W	
R141	1-249-944-11	CARBON	7.5K	1%	1/4W	
R142	1-249-944-11	CARBON	7.5K	1%	1/4W	
R143	1-249-944-11	CARBON	7.5K	1%	1/4W	
R144	1-249-944-11	CARBON	7.5K	1%	1/4W	
R145	1-249-944-11	CARBON	7.5K	1%	1/4W	
R146	1-249-945-11	CARBON	8.2K	1%	1/4W	
R147	1-247-721-11	CARBON	4.7K	5%	1/4W	
R148	1-249-945-11	CARBON	8.2K	1%	1/4W	
R149	1-247-721-11	CARBON	4.7K	5%	1/4W	
R150	1-249-929-11	CARBON	1.8K	1%	1/4W	
R151	1-249-929-11	CARBON	1.8K	1%	1/4W	
R152	1-249-929-11	CARBON	1.8K	1%	1/4W	
R153	1-249-929-11	CARBON	1.8K	1%	1/4W	
R154	1-249-606-11	CARBON	180K	5%	1/4W	
R155	1-247-713-11	CARBON	1K	5%	1/4W	F
R156	1-249-553-11	CARBON	1.1K	5%	1/4W	
R157	1-249-465-11	CARBON	47K	5%	1/4W	
R158	1-247-704-11	CARBON	220	5%	1/4W	
R159	1-249-577-11	CARBON	11K	5%	1/4W	
R160	1-247-148-00	CARBON	5.1K	5%	1/4W	
R161	1-249-577-11	CARBON	11K	5%	1/4W	
R162	1-247-148-00	CARBON	5.1K	5%	1/4W	
R163	1-247-704-11	CARBON	220	5%	1/4W	
R164	1-247-739-11	CARBON	100	5%	1/2W	
R165	1-249-637-11	CARBON	33	5%	1/2W	
R166	1-249-637-11	CARBON	33	5%	1/2W	
R167	1-247-739-11	CARBON	100	5%	1/2W	
R168	1-249-465-11	CARBON	47K	5%	1/4W	
R169	1-247-739-11	CARBON	100	5%	1/2W	
R170	1-259-452-11	CARBON	10K	5%	1/6W	
R171	1-259-468-11	CARBON	47K	5%	1/6W	
R172	1-259-476-11	CARBON	100K	5%	1/6W	
R178	1-247-700-11	CARBON	100	5%	1/4W	F(AEP,G)
R178	1-410-397-21	FERRITE BEAD INDUCTOR	1.1uH			(US)
R180	1-259-426-11	CARBON	820	5%	1/6W	
R181	1-249-920-11	CARBON	750	1%	1/4W	
R182	1-246-545-00	CARBON	1.0M	5%	1/4W	
R190	1-247-739-11	CARBON	100	5%	1/2W	
R232	1-249-947-11	CARBON	10K	1%	1/4W	
R233	1-249-947-11	CARBON	10K	1%	1/4W	
R234	1-249-947-11	CARBON	10K	1%	1/4W	
R235	1-249-947-11	CARBON	10K	1%	1/4W	
R236	1-249-947-11	CARBON	10K	1%	1/4W	
R237	1-249-947-11	CARBON	10K	1%	1/4W	
R238	1-249-947-11	CARBON	10K	1%	1/4W	
R239	1-249-947-11	CARBON	10K	1%	1/4W	
R240	1-249-944-11	CARBON	7.5K	1%	1/4W	
R241	1-249-944-11	CARBON	7.5K	1%	1/4W	
R242	1-249-944-11	CARBON	7.5K	1%	1/4W	
R243	1-249-944-11	CARBON	7.5K	1%	1/4W	
R244	1-249-944-11	CARBON	7.5K	1%	1/4W	
R245	1-249-944-11	CARBON	7.5K	1%	1/4W	
R246	1-249-945-11	CARBON	8.2K	1%	1/4W	

DA EJECT SW HP

Ref. No.	Part No.	Description				Remark
R247	1-247-721-11	CARBON	4.7K	5%	1/4W	
R248	1-249-945-11	CARBON	8.2K	1%	1/4W	
R249	1-247-721-11	CARBON	4.7K	5%	1/4W	
R250	1-249-929-11	CARBON	1.8K	1%	1/4W	
R251	1-249-929-11	CARBON	1.8K	1%	1/4W	
R252	1-249-929-11	CARBON	1.8K	1%	1/4W	
R253	1-249-929-11	CARBON	1.8K	1%	1/4W	
R254	1-249-606-11	CARBON	180K	5%	1/4W	
R255	1-247-713-11	CARBON	1K	5%	1/4W	F
R256	1-249-553-11	CARBON	1.1K	5%	1/4W	
R257	1-249-465-11	CARBON	47K	5%	1/4W	
R258	1-247-704-11	CARBON	220	5%	1/4W	
R259	1-249-577-11	CARBON	11K	5%	1/4W	
R260	1-247-148-00	CARBON	5.1K	5%	1/4W	
R261	1-249-577-11	CARBON	11K	5%	1/4W	
R262	1-247-148-00	CARBON	5.1K	5%	1/4W	
R263	1-247-704-11	CARBON	220	5%	1/4W	
R264	1-247-739-11	CARBON	100	5%	1/2W	
R265	1-249-637-11	CARBON	33	5%	1/2W	
R266	1-249-637-11	CARBON	33	5%	1/2W	
R267	1-247-739-11	CARBON	100	5%	1/2W	
R268	1-249-465-11	CARBON	47K	5%	1/4W	
R269	1-247-739-11	CARBON	100	5%	1/2W	
R270	1-259-452-11	CARBON	10K	5%	1/6W	
R271	1-259-468-11	CARBON	47K	5%	1/6W	
R272	1-259-476-11	CARBON	100K	5%	1/6W	
R278	1-247-700-11	CARBON	100	5%	1/4W	F(AEP, G)
R278	1-410-397-21	FERRITE BEAD INDUCTOR	1.1uH			(US)
R280	1-259-426-11	CARBON	820	5%	1/6W	
R281	1-249-920-11	CARBON	750	1%	1/4W	
R282	1-246-545-00	CARBON	1.0M	5%	1/4W	
R290	1-247-739-11	CARBON	100	5%	1/2W	
R342	1-259-476-11	CARBON	100K	5%	1/6W	
R343	1-259-436-11	CARBON	2.2K	5%	1/6W	
R350	1-259-428-11	CARBON	1K	5%	1/6W	
R351	1-259-412-11	CARBON	220	5%	1/6W	
R352	1-259-412-11	CARBON	220	5%	1/6W	
R353	1-259-412-11	CARBON	220	5%	1/6W	
R354	1-259-412-11	CARBON	220	5%	1/6W	
R355	1-259-396-11	CARBON	47	5%	1/6W	
R356	1-259-396-11	CARBON	47	5%	1/6W	
R358	1-259-412-11	CARBON	220	5%	1/6W	
R359	1-259-444-11	CARBON	4.7K	5%	1/6W	
R360	1-259-396-11	CARBON	47	5%	1/6W	
R361	1-259-428-11	CARBON	1K	5%	1/6W	
R362	1-259-436-11	CARBON	2.2K	5%	1/6W	
R363	1-259-428-11	CARBON	1K	5%	1/6W	
R364	1-259-476-11	CARBON	100K	5%	1/6W	
R365	1-259-452-11	CARBON	10K	5%	1/6W	
R366	1-259-452-11	CARBON	10K	5%	1/6W	
R367	1-259-476-11	CARBON	100K	5%	1/6W	
R368	1-259-428-11	CARBON	1K	5%	1/6W	
R369	1-259-428-11	CARBON	1K	5%	1/6W	
R370	1-259-428-11	CARBON	1K	5%	1/6W	
R371	1-259-500-11	CARBON	1M	5%	1/6W	
R372	1-247-704-11	CARBON	220	5%	1/4W	
R373	1-247-700-11	CARBON	100	5%	1/4W	F
R374	1-247-700-11	CARBON	100	5%	1/4W	F
R375	1-259-426-11	CARBON	820	5%	1/6W	
R379	1-259-452-11	CARBON	10K	5%	1/6W	
R380	1-259-452-11	CARBON	10K	5%	1/6W	
R381	1-259-452-11	CARBON	10K	5%	1/6W	
R382	1-259-452-11	CARBON	10K	5%	1/6W	
R383	1-259-452-11	CARBON	10K	5%	1/6W	
R384	1-259-476-11	CARBON	100K	5%	1/6W	
R385	1-259-476-11	CARBON	100K	5%	1/6W	
R386	1-259-412-11	CARBON	220	5%	1/6W	
R387	1-259-404-11	CARBON	100	5%	1/6W	
R388	1-259-412-11	CARBON	220	5%	1/6W	
R389	1-259-420-11	CARBON	470	5%	1/6W	
R390	1-259-452-11	CARBON	10K	5%	1/6W	
R399	1-259-476-11	CARBON	100K	5%	1/6W	

< RELAY >

RY150	1-515-804-11	RELAY	
RY251	1-515-804-11	RELAY	
RY303	1-515-804-11	RELAY	

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* 1-650-793-11 EJECT SW BOARD
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< SWITCH >

S601	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)

****

* 1-650-808-11 HP BOARD
****

< CAPACITOR >

C142	1-136-810-11	FILM	220PF	5%	100V
C242	1-136-810-11	FILM	220PF	5%	100V
C372	1-124-911-11	ELECT	220uF	20%	50V
C373	1-124-911-11	ELECT	220uF	20%	50V

< CONNECTOR >

CN319	1-564-510-11	PLUG, CONNECTOR 7P

Ref.No.	Part No.	Description	Remark
		< IC >	
IC317	8-759-745-61	IC NJM4560D-D	
		< JACK >	
J302	1-565-327-11	JACK, LARGE TYPE 1P (PHONES)	
		< RESISTOR >	
R174	1-249-497-11	CARBON 33K 5% 1/4W	
R175	1-247-721-11	CARBON 4.7K 5% 1/4W	
R176	1-249-462-11	CARBON 22K 5% 1/4W	
R177	1-247-700-11	CARBON 100 5% 1/4W	F
R274	1-249-497-11	CARBON 33K 5% 1/4W	
R275	1-247-721-11	CARBON 4.7K 5% 1/4W	
R276	1-249-462-11	CARBON 22K 5% 1/4W	
R277	1-247-700-11	CARBON 100 5% 1/4W	F
⚠R376	1-212-857-00	FUSIBLE 10 5% 1/4W	F
⚠R377	1-212-857-00	FUSIBLE 10 5% 1/4W	F
		< VARIABLE RESISTOR >	
RV302	1-223-557-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL)	

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Ref.No.	Part No.	Description	Remark
*	1-650-798-11	LED BOARD *********	
		< DIODE >	
D660	8-719-421-98	DIODE LN01401C(Q)-3-LF	
D661	8-719-421-98	DIODE LN01401C(Q)-3-LF	
D662	8-719-421-98	DIODE LN01401C(Q)-3-LF	
		< RESISTOR >	
R662	1-249-408-11	CARBON 180 5% 1/4W	F
R690	1-247-806-11	CARBON 91 5% 1/4W	

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Ref.No.	Part No.	Description	Remark
*	1-650-811-11	LOAD SW BOARD *************	
		< SWITCH >	
S902	1-571-489-11	SWITCH, SLIDE (UNLOAD)	
S903	1-571-489-11	SWITCH, SLIDE (LOAD)	

****

Ref.No.	Part No.	Description	Remark
*	1-650-813-11	LOADING MOTOR BOARD *******************	
		< CAPACITOR >	
C999	1-163-038-00	CERAMIC CHIP 0.1uF 25V	

Ref.No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN919	1-564-496-11	PIN, CONNECTOR 3P	
* CN920	1-564-497-11	PIN, CONNECTOR 4P	
* CN922	1-564-495-11	PIN, CONNECTOR 2P	
		< MOTOR >	
M901	A-2004-301-A	MOTOR ASSY, CONTROL (LOADING)	

****

Ref.No.	Part No.	Description	Remark
*	A-2007-092-A	MAIN BOARD, COMPLETE (US,AEP) *****************************	
*	A-2007-184-A	MAIN BOARD, COMPLETE (G) ************************	
		< CAPACITOR >	
C401	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C402	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C403	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C404	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C405	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C406	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C407	1-163-038-00	CERAMIC CHIP 0.1uF 25V	(US,AEP)
C408	1-163-038-00	CERAMIC CHIP 0.1uF 25V	(US,AEP)
C409	1-163-038-00	CERAMIC CHIP 0.1uF 25V	(US,AEP)
C410	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C411	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C412	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C413	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C414	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C415	1-164-505-11	CERAMIC CHIP 2.2uF 16V	(US,AEP)
C415	1-163-038-00	CERAMIC CHIP 0.1uF 25V	(G)
C416	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C417	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C418	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C420	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
C421	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
C422	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	(US,AEP)
C423	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
C424	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
C425	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C428	1-163-087-00	CERAMIC CHIP 4PF 50V	
C429	1-163-087-00	CERAMIC CHIP 4PF 50V	
C430	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C431	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C432	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C433	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C434	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C435	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	(US,AEP)
C436	1-164-232-11	CERAMIC CHIP 0.01uF 50V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description	Remark
C437	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C438	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C440	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C442	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C444	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C446	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C447	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
		< CONNECTOR >	
CN401	1-764-080-21	PIN, CONNECTOR (PC BOARD) 8P	
CN402	1-695-889-21	PIN, CONNECTOR (PC BOARD) 10P	
CN404	1-764-079-21	PIN, CONNECTOR (PC BOARD) 4P	
CN406	1-569-480-11	CONNECTOR, FPC 23P	
CN407	1-764-087-21	PIN, CONNECTOR (PC BOARD) 14P	
CN408	1-695-209-21	PIN, CONNECTOR (PC BOARD) 15P	
CN409	1-565-728-11	CONNECTOR, FPC 17P	
		< DIODE >	
D401	8-719-033-11	DIODE KV1550TL00	
		< COIL >	
F403	1-414-135-11	INDUCTOR CHIP 0UH	
F404	1-414-135-11	INDUCTOR CHIP 0UH	
F417	1-414-135-11	INDUCTOR CHIP 0UH	
F418	1-414-135-11	INDUCTOR CHIP 0UH	
F419	1-414-135-11	INDUCTOR CHIP 0UH	
F423	1-414-135-11	INDUCTOR CHIP 0UH	
F424	1-414-135-11	INDUCTOR CHIP 0UH	
F425	1-414-135-11	INDUCTOR CHIP 0UH	
		< RESISTOR >	
F402	1-216-025-00	METAL CHIP 100 5% 1/10W	
F410	1-216-295-00	METAL CHIP 0 5% 1/10W	
F411	1-216-295-00	METAL CHIP 0 5% 1/10W	
F412	1-216-295-00	METAL CHIP 0 5% 1/10W	
F413	1-216-295-00	METAL CHIP 0 5% 1/10W	
F414	1-216-295-00	METAL CHIP 0 5% 1/10W	
F415	1-216-295-00	METAL CHIP 0 5% 1/10W	(US, AEP)
F416	1-216-295-00	METAL CHIP 0 5% 1/10W	
F420	1-216-025-00	METAL CHIP 100 5% 1/10W	
F421	1-216-295-00	METAL CHIP 0 5% 1/10W	
F422	1-216-025-00	METAL CHIP 100 5% 1/10W	
F426	1-216-295-00	METAL CHIP 0 5% 1/10W	
F427	1-216-295-00	METAL CHIP 0 5% 1/10W	
F428	1-216-295-00	METAL CHIP 0 5% 1/10W	
F430	1-216-025-00	METAL CHIP 100 5% 1/10W	
F431	1-216-295-00	METAL CHIP 0 5% 1/10W	
F432	1-216-025-00	METAL CHIP 100 5% 1/10W	

Ref. No.	Part No.	Description	Remark
		< IC >	
IC401	8-752-355-55	IC CXD2605Q	
IC402	8-752-355-55	IC CXD2605Q	(US, AEP)
IC403	8-752-853-30	IC CXP87532-007Q	
IC404	8-759-194-56	IC CXD8484Q	
IC405	8-752-343-18	IC CXD2704Q	
IC406	8-752-356-96	IC CXK58257AM-10LL	
IC407	8-752-356-96	IC CXK58257AM-10LL	(US, AEP)
IC408	8-759-926-48	IC SN74HC244ANS	
IC409	8-759-926-48	IC SN74HC244ANS	
IC410	8-759-925-72	IC SN74HC02ANS	
IC411	8-759-925-72	IC SN74HC02ANS	
IC412	8-759-242-72	IC TC7W00F	
IC413	8-759-634-43	IC M51953BFP	
IC415	8-759-243-19	IC TC7SU04F	
IC416	8-759-926-45	IC SN74HC241ANS	
IC417	8-759-243-19	IC TC7SU04F	(US, AEP)
IC418	8-759-243-19	IC TC7SU04F	
		< COIL >	
L403	1-410-370-31	INDUCTOR CHIP 1.2uH	
L404	1-410-381-11	INDUCTOR CHIP 10uH	
L405	1-410-381-11	INDUCTOR CHIP 10uH	(US, AEP)
L406	1-410-387-11	INDUCTOR CHIP 33uH	
		< RESISTOR >	
R401	1-216-295-00	METAL CHIP 0 5% 1/10W	
R402	1-216-295-00	METAL CHIP 0 5% 1/10W	
R403	1-216-295-00	METAL CHIP 0 5% 1/10W	
R404	1-216-295-00	METAL CHIP 0 5% 1/10W	
R405	1-216-025-00	METAL CHIP 100 5% 1/10W	
R406	1-216-025-00	METAL CHIP 100 5% 1/10W	(US, AEP)
R407	1-216-295-00	METAL CHIP 0 5% 1/10W	
R409	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R410	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R411	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R415	1-216-037-00	METAL CHIP 330 5% 1/10W	
R417	1-216-025-00	METAL CHIP 100 5% 1/10W	(US, AEP)
R418	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R419	1-216-295-00	METAL CHIP 0 5% 1/10W	
R420	1-216-295-00	METAL CHIP 0 5% 1/10W	
R424	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R425	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R426	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R427	1-216-295-00	METAL CHIP 0 5% 1/10W	
R428	1-216-295-00	METAL CHIP 0 5% 1/10W	(US, AEP)
R430	1-216-295-00	METAL CHIP 0 5% 1/10W	(G)
R431	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R432	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R433	1-216-097-00	METAL CHIP 100K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R434	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R435	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R436	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R437	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R438	1-216-295-00	METAL CHIP 0 5% 1/10W	
R440	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R441	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R442	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R445	1-216-295-00	METAL CHIP 0 5% 1/10W	
R446	1-216-295-00	METAL CHIP 0 5% 1/10W	(US, AEP)
R447	1-216-295-00	METAL CHIP 0 5% 1/10W	
R448	1-216-295-00	METAL CHIP 0 5% 1/10W	
R449	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R450	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R452	1-216-295-00	METAL CHIP 0 5% 1/10W	
R453	1-216-089-91	METAL GLAZE 47K 5% 1/10W	(US, AEP)
R454	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R455	1-216-295-00	METAL CHIP 0 5% 1/10W	
R457	1-216-295-00	METAL CHIP 0 5% 1/10W	(G)
R458	1-216-295-00	METAL CHIP 0 5% 1/10W	(G)
R459	1-216-295-00	METAL CHIP 0 5% 1/10W	(G)
R460	1-216-295-00	METAL CHIP 0 5% 1/10W	(G)
R461	1-216-295-00	METAL CHIP 0 5% 1/10W	(G)
R465	1-216-295-00	METAL CHIP 0 5% 1/10W	
R471	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R472	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R475	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R478	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R479	1-216-097-00	METAL CHIP 100K 5% 1/10W	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X401	1-579-499-11	OSCILLATOR, CRYSTAL (49.152MHz)	
X402	1-760-164-11	VIBRATOR, CRYSTAL (37.632MHz)	

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* A-2007-075-A MD BOARD, COMPLETE

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< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C901	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C902	1-163-986-00	CERAMIC CHIP 0.027uF 10% 25V	
C903	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	
C904	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C905	1-126-395-11	ELECT 22uF 20% 16V	
C906	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C907	1-163-986-00	CERAMIC CHIP 0.027uF 10% 25V	
C908	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	
C909	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C910	1-126-395-11	ELECT 22uF 20% 16V	
C911	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C912	1-163-986-00	CERAMIC CHIP 0.027uF 10% 25V	
C913	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	
C914	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C915	1-163-986-00	CERAMIC CHIP 0.027uF 10% 25V	
C916	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	
C917	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C918	1-126-395-11	ELECT 22uF 20% 16V	
C919	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C920	1-126-601-11	ELECT CHIP 2.2uF 20% 50V	
C921	1-126-205-11	ELECT CHIP 47uF 20% 6.3V	
C923	1-126-395-11	ELECT 22uF 20% 16V	
C930	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C931	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C932	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C934	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C935	1-126-916-11	ELECT 1000uF 20% 6.3V	
C936	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V	
C938	1-163-091-00	CERAMIC CHIP 8PF 50V	
C939	1-163-091-00	CERAMIC CHIP 8PF 50V	
C940	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C941	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C942	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C944	1-126-204-11	ELECT CHIP 47uF 20% 16V	
C946	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C947	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
C948	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C949	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C950	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C951	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C952	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C953	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C954	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C955	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C956	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C957	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C958	1-126-204-11	ELECT CHIP 47uF 20% 16V	
C959	1-126-204-11	ELECT CHIP 47uF 20% 16V	
C960	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	
C961	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C962	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C963	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN901	1-506-503-11	PIN, CONNECTOR 9P	
* CN903	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN904	1-564-505-11	PLUG, CONNECTOR 2P	
* CN905	1-564-515-11	PLUG, CONNECTOR 12P	
* CN906	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
CN907	1-695-209-21	PIN, CONNECTOR (PC BOARD) 15P	

Ref.No.	Part No.	Description	Remark
CN908	1-764-081-21	PIN, CONNECTOR (PC BOARD) 9P	
CN909	1-764-087-21	PIN, CONNECTOR (PC BOARD) 14P	
CN910	1-565-728-11	CONNECTOR, FPC 17P	
CN911	1-764-080-21	PIN, CONNECTOR (PC BOARD) 8P	
* CN912	1-568-369-11	HOUSING,CONNECTOR(PC BOARD) 8P	
* CN913	1-564-339-00	PIN, CONNECTOR 5P	
* CN915	1-564-337-00	PIN, CONNECTOR 3P	
* CN916	1-564-337-61	PIN, CONNECTOR 3P	

< DIODE >

Ref.No.	Part No.	Description	Remark
D901	8-719-104-34	DIODE 1S2836	
D902	8-719-104-34	DIODE 1S2836	
D903	8-719-105-46	DIODE RD3.3M-B2	
D904	8-719-105-58	DIODE RD3.9M-B2	

< IC >

Ref.No.	Part No.	Description	Remark
IC901	8-752-850-64	IC CXP87532-006Q	
IC902	8-759-070-64	IC CXK1024M-ME	
IC903	8-759-107-68	IC CX20115A	
IC905	8-759-636-20	IC M54641FP	
IC906	8-759-636-20	IC M54641FP	
IC907	8-759-983-69	IC LM358PS	
IC908	8-759-983-69	IC LM358PS	
IC910	8-759-983-74	IC LM324NS	
IC911	8-759-983-69	IC LM358PS	

< COIL >

Ref.No.	Part No.	Description	Remark
L901	1-410-387-11	INDUCTOR CHIP 33uH	
L905	1-414-135-11	INDUCTOR CHIP 0uH	
L906	1-414-135-11	INDUCTOR CHIP 0uH	

< RESISTOR >

Ref.No.	Part No.	Description	Remark
L902	1-216-295-00	METAL CHIP 0 5% 1/10W	
L903	1-216-295-00	METAL CHIP 0 5% 1/10W	
L904	1-216-295-00	METAL CHIP 0 5% 1/10W	
L907	1-216-295-00	METAL CHIP 0 5% 1/10W	

< PLUNGER SOLENOID >

Ref.No.	Part No.	Description	Remark
PM901	8-835-205-01	MOTOR DC U-2A (BRAKE)(INCLUDING M903)	
PM902	1-454-522-11	SOLENOID, PLUNGER (FWD)	

< TRANSISTOR >

Ref.No.	Part No.	Description	Remark
Q901	8-729-216-22	TRANSISTOR 2SA1162-G	
Q902	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q903	8-729-822-84	TRANSISTOR 2SB1202FAST	
Q904	8-729-216-22	TRANSISTOR 2SA1162-G	
Q905	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q906	8-729-822-84	TRANSISTOR 2SB1202FAST	
Q907	8-729-101-07	TRANSISTOR 2SB798-DL	
Q908	8-729-216-22	TRANSISTOR 2SA1162-G	
Q910	8-729-101-07	TRANSISTOR 2SB798-DL	
Q911	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q912	8-729-810-28	TRANSISTOR 2SC4398	
Q913	8-729-014-00	TRANSISTOR RN1305	
Q914	8-729-820-86	TRANSISTOR 2SB1121-ST	
Q915	8-729-820-91	TRANSISTOR 2SD1621-ST-TC	
Q916	8-729-810-28	TRANSISTOR 2SC4398	
Q917	8-729-014-00	TRANSISTOR RN1305	
Q918	8-729-820-86	TRANSISTOR 2SB1121-ST	
Q919	8-729-820-91	TRANSISTOR 2SD1621-ST-TC	
Q920	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q921	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q922	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q923	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q924	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q925	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q926	8-729-810-28	TRANSISTOR 2SC4398	
Q927	8-729-810-28	TRANSISTOR 2SC4398	
Q928	8-729-805-64	TRANSISTOR 2SA1510	

< RESISTOR >

Ref.No.	Part No.	Description	Remark
R772	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R773	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R858	1-216-033-00	METAL CHIP 220 5% 1/10W	
R859	1-216-033-00	METAL CHIP 220 5% 1/10W	
R860	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R861	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R862	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R863	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R864	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R865	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R866	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R867	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R868	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R869	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R871	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R872	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R873	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R874	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R875	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R876	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R877	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R878	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R882	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R883	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R884	1-216-041-00	METAL CHIP 470 5% 1/10W	
R885	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R886	1-216-041-00	METAL CHIP 470 5% 1/10W	
R891	1-216-037-00	METAL CHIP 330 5% 1/10W	
R892	1-216-037-00	METAL CHIP 330 5% 1/10W	
R893	1-216-049-00	METAL CHIP 1K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R894	1-216-033-00	METAL CHIP 220 5% 1/10W	
R895	1-216-033-00	METAL CHIP 220 5% 1/10W	
R896	1-216-033-00	METAL CHIP 220 5% 1/10W	
R897	1-216-033-00	METAL CHIP 220 5% 1/10W	
R898	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R899	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R901	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R902	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R903	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R904	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R906	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R908	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R909	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R910	1-216-025-00	METAL CHIP 100 5% 1/10W	
R911	1-216-031-00	METAL CHIP 180 5% 1/10W	
R912	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R913	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R914	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R915	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R916	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R918	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R920	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R921	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R922	1-216-025-00	METAL CHIP 100 5% 1/10W	
R923	1-216-031-00	METAL CHIP 180 5% 1/10W	
R924	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R925	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R926	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R927	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R928	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R930	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R931	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R932	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R933	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R936	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R937	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R938	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R939	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R940	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R941	1-216-029-00	METAL CHIP 150 5% 1/10W	
R942	1-216-033-00	METAL CHIP 220 5% 1/10W	
R943	1-216-041-00	METAL CHIP 470 5% 1/10W	
R944	1-216-033-00	METAL CHIP 220 5% 1/10W	
R945	1-216-041-00	METAL CHIP 470 5% 1/10W	
R950	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R951	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R952	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R953	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R954	1-216-033-00	METAL CHIP 220 5% 1/10W	
R955	1-216-033-00	METAL CHIP 220 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R958	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R959	1-216-062-00	METAL CHIP 3.6K 5% 1/10W	
R960	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R961	1-216-084-00	METAL CHIP 30K 5% 1/10W	
R962	1-216-058-00	METAL GLAZE 2.4K 5% 1/10W	
R963	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R964	1-216-029-00	METAL CHIP 150 5% 1/10W	
R965	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R966	1-216-025-00	METAL CHIP 100 5% 1/10W	
R967	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R968	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R971	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R972	1-216-033-00	METAL CHIP 220 5% 1/10W	
R973	1-216-033-00	METAL CHIP 220 5% 1/10W	
R974	1-216-033-00	METAL CHIP 220 5% 1/10W	
R976	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R977	1-216-041-00	METAL CHIP 470 5% 1/10W	
R978	1-216-041-00	METAL CHIP 470 5% 1/10W	
R979	1-216-041-00	METAL CHIP 470 5% 1/10W	
R980	1-216-041-00	METAL CHIP 470 5% 1/10W	
R982	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R983	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R984	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R985	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R986	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R987	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R988	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R989	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R990	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R991	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R992	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R993	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R994	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R995	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R996	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R997	1-216-089-91	METAL GLAZE 47K 5% 1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV901	1-238-855-11	RES, ADJ, CERMET 4.7K (END SENSOR ADJ (T))	
RV902	1-238-855-11	RES, ADJ, CERMET 4.7K (END SENSOR ADJ (S))	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X901	1-760-240-11	VIBRATOR, CRYSTAL (9.408MHz)	

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MIC AMP MODE SW

Ref.No.	Part No.	Description				Remark
*	A-2007-097-A	MIC AMP BOARD, COMPLETE				
		**********************				
		< CAPACITOR >				
C102	1-124-916-11	ELECT	22uF	20%	63V	
C103	1-107-165-00	MICA	56PF	5%	50V	
C104	1-136-157-00	FILM	0.022uF	5%	50V	
C105	1-107-210-00	MICA	22PF	5%	500V	
C106	1-136-169-00	FILM	0.22uF	5%	50V	
C202	1-124-916-11	ELECT	22uF	20%	63V	
C203	1-107-165-00	MICA	56PF	5%	50V	
C204	1-136-157-00	FILM	0.022uF	5%	50V	
C205	1-107-210-00	MICA	22PF	5%	500V	
C206	1-136-169-00	FILM	0.22uF	5%	50V	
C301	1-124-910-11	ELECT	47uF	20%	50V	
C302	1-124-910-11	ELECT	47uF	20%	50V	
		< CONNECTOR >				
CN034	1-691-768-11	PLUG (MICRO CONNECTOR) 6P				
* CN132	1-564-495-11	PIN, CONNECTOR 2P				
		< IC >				
IC300	8-759-900-72	IC NE5532P				
		< JACK >				
* J101	1-764-618-11	JACK (LARGE TYPE)(MIC R)				
* J201	1-764-618-11	JACK (LARGE TYPE)(MIC L)				
		< TRANSISTOR >				
Q101	8-729-107-85	TRANSISTOR 2SC3623A-K				
Q102	8-729-024-40	TRANSISTOR 2SK369-GR-TP2				
Q103	8-729-024-40	TRANSISTOR 2SK369-GR-TP2				
Q104	8-729-803-82	TRANSISTOR 2SC3468-E				
Q105	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q106	8-729-204-90	TRANSISTOR 2SK246-GR1				
Q201	8-729-107-85	TRANSISTOR 2SC3623A-K				
Q202	8-729-024-40	TRANSISTOR 2SK369-GR-TP2				
Q203	8-729-024-40	TRANSISTOR 2SK369-GR-TP2				
Q204	8-729-803-82	TRANSISTOR 2SC3468-E				
Q205	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q206	8-729-204-90	TRANSISTOR 2SK246-GR1				
Q301	8-729-900-80	TRANSISTOR DTC114ES				
		< RESISTOR >				
R100	1-259-500-11	CARBON	1M	5%	1/6W	
R103	1-259-446-11	CARBON	5.6K	5%	1/6W	
R104	1-259-423-11	CARBON	620	5%	1/6W	
R105	1-259-444-11	CARBON	4.7K	5%	1/6W	
R106	1-259-468-11	CARBON	47K	5%	1/6W	
R107	1-259-404-11	CARBON	100	5%	1/6W	
R108	1-259-425-11	CARBON	750	5%	1/6W	
R109	1-259-397-11	CARBON	51	5%	1/6W	
R110	1-259-425-11	CARBON	750	5%	1/6W	
R111	1-259-420-11	CARBON	470	5%	1/6W	
R112	1-259-394-11	CARBON	39	5%	1/6W	
R113	1-259-412-11	CARBON	220	5%	1/6W	
R114	1-259-412-11	CARBON	220	5%	1/6W	
R115	1-259-460-11	CARBON	22K	5%	1/6W	
R116	1-259-476-11	CARBON	100K	5%	1/6W	
R200	1-259-500-11	CARBON	1M	5%	1/6W	
R203	1-259-446-11	CARBON	5.6K	5%	1/6W	
R204	1-259-423-11	CARBON	620	5%	1/6W	
R205	1-259-444-11	CARBON	4.7K	5%	1/6W	
R206	1-259-468-11	CARBON	47K	5%	1/6W	
R207	1-259-404-11	CARBON	100	5%	1/6W	
R208	1-259-425-11	CARBON	750	5%	1/6W	
R209	1-259-397-11	CARBON	51	5%	1/6W	
R210	1-259-425-11	CARBON	750	5%	1/6W	
R211	1-259-420-11	CARBON	470	5%	1/6W	
R212	1-259-394-11	CARBON	39	5%	1/6W	
R213	1-259-412-11	CARBON	220	5%	1/6W	
R214	1-259-412-11	CARBON	220	5%	1/6W	
R215	1-259-460-11	CARBON	22K	5%	1/6W	
R216	1-259-476-11	CARBON	100K	5%	1/6W	
R301	1-259-468-11	CARBON	47K	5%	1/6W	
R302	1-259-426-11	CARBON	820	5%	1/6W	

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Ref.No.	Part No.	Description				Remark
*	1-650-799-11	MODE SW BOARD				
		************				
		< CONNECTOR >				
* CN657	1-564-337-61	PIN, CONNECTOR 3P				
		< RESISTOR >				
R660	1-249-426-11	CARBON	5.6K	5%	1/4W	
R669	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R670	1-247-836-11	CARBON	1.6K	5%	1/4W	
R671	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R672	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R674	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R675	1-247-836-11	CARBON	1.6K	5%	1/4W	
		< SWITCH >				
S655	1-692-810-11	SWITCH, ROTARY (INPUT)				
S656	1-692-809-11	SWITCH, ROTARY (REC MODE)				

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PANEL (L)

Ref.No.	Part No.	Description	Remark
*	A-2007-186-A	PANEL (L) BOARD, COMPLETE (AEP,G)	
		*********************************	
*	A-2007-193-A	PANEL (L) BOARD, COMPLETE (US)	
		******************************	
*	3-908-782-01	HOLDER (FL TUBE)	
	9-911-839-XX	CUSHION	
*	4-911-676-41	SPACER, LED	
		< CAPACITOR >	
C601	1-124-584-00	ELECT 100uF 20% 10V	
C602	1-124-248-00	ELECT 22uF 20% 35V	
C603	1-164-159-11	CERAMIC 0.1uF 50V	
C604	1-164-159-11	CERAMIC 0.1uF 50V	
C605	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C606	1-164-159-11	CERAMIC 0.1uF 50V	
C607	1-162-205-31	CERAMIC 18PF 5% 50V	
C608	1-162-199-31	CERAMIC 10PF 5% 50V	
		< CONNECTOR >	
* CN603	1-580-562-11	PIN, CONNECTOR (PC BOARD) 14P	
* CN604	1-580-563-11	PIN, CONNECTOR (PC BOARD) 16P	
		< COMPOSITION CIRCUIT BLOCK >	
CP601	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP602	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP603	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP604	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP605	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP606	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP607	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP608	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
		< TRIMMER >	
CT601	1-141-334-11	CAP, VAR, TRIMMER (CLOCK FREQUECY)	
		< DIODE >	
D601	8-719-911-06	DIODE 1SS106	
D602	8-719-911-06	DIODE 1SS106	
D603	8-719-987-63	DIODE 1N4148M	
D604	8-719-304-16	DIODE SEL2510W-D (▶)	
D605	8-719-934-34	DIODE AA3432S (PAUSE ▮▮)	
D606	8-719-938-69	DIODE GL3PR8 (REC ●)	
D607	8-719-934-34	DIODE AA3432S (AUTO)	
D608	8-719-934-34	DIODE AA3432S (RENUMBER)	
		< FLUORESCENT INDICATOR TUBE >	
FL601	1-517-271-11	INDICATOR TUBE, FLUORESCENT	

Ref.No.	Part No.	Description	Remark
		< IC >	
IC601	8-752-853-31	IC CXP82220-014Q	
IC602	8-759-504-23	IC RF5C62	
		< TRANSISTOR >	
Q601	8-729-900-80	TRANSISTOR DTC114ES	
Q602	8-729-900-80	TRANSISTOR DTC114ES	
Q603	8-729-900-80	TRANSISTOR DTC114ES	
Q604	8-729-900-80	TRANSISTOR DTC114ES	
Q605	8-729-900-80	TRANSISTOR DTC114ES	
Q607	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q608	8-729-620-05	TRANSISTOR 2SC2603-EF	
		< RESISTOR >	
R601	1-249-441-11	CARBON 100K 5% 1/4W	
R602	1-249-441-11	CARBON 100K 5% 1/4W	
R603	1-249-441-11	CARBON 100K 5% 1/4W	
R604	1-249-441-11	CARBON 100K 5% 1/4W	
R608	1-249-441-11	CARBON 100K 5% 1/4W	
R610	1-249-441-11	CARBON 100K 5% 1/4W	
R611	1-249-429-11	CARBON 10K 5% 1/4W	
R612	1-249-441-11	CARBON 100K 5% 1/4W	(AEP,G)
R613	1-249-441-11	CARBON 100K 5% 1/4W	(US)
R614	1-249-441-11	CARBON 100K 5% 1/4W	
R616	1-249-441-11	CARBON 100K 5% 1/4W	
R617	1-249-441-11	CARBON 100K 5% 1/4W	
R618	1-249-413-11	CARBON 470 5% 1/4W	F
R619	1-249-441-11	CARBON 100K 5% 1/4W	
R620	1-249-409-11	CARBON 220 5% 1/4W	F
R621	1-249-409-11	CARBON 220 5% 1/4W	F
R622	1-249-409-11	CARBON 220 5% 1/4W	F
R623	1-249-409-11	CARBON 220 5% 1/4W	F
R624	1-249-409-11	CARBON 220 5% 1/4W	F
R625	1-249-428-11	CARBON 8.2K 5% 1/4W	F
R626	1-249-418-11	CARBON 1.2K 5% 1/4W	F
R627	1-247-836-11	CARBON 1.6K 5% 1/4W	
R628	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R629	1-249-428-11	CARBON 8.2K 5% 1/4W	F
R630	1-249-418-11	CARBON 1.2K 5% 1/4W	F
R631	1-247-836-11	CARBON 1.6K 5% 1/4W	
R632	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R633	1-249-428-11	CARBON 8.2K 5% 1/4W	F
R634	1-249-418-11	CARBON 1.2K 5% 1/4W	F
R635	1-247-836-11	CARBON 1.6K 5% 1/4W	
R636	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R637	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R638	1-249-428-11	CARBON 8.2K 5% 1/4W	F
R639	1-249-418-11	CARBON 1.2K 5% 1/4W	F
R640	1-247-836-11	CARBON 1.6K 5% 1/4W	

PANEL (L) PANEL (R)

Ref.No.	Part No.	Description	Remark
R641	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R642	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R646	1-249-388-11	CARBON 3.9 5% 1/6W F	
R647	1-249-388-11	CARBON 3.9 5% 1/6W F	
R658	1-249-437-11	CARBON 47K 5% 1/4W	
		< SWITCH >	
S602	1-554-303-21	SWITCH, TACTILE (■)	
S603	1-554-303-21	SWITCH, TACTILE (▶)	
S604	1-554-303-21	SWITCH, TACTILE (AMS |◁◁)	
S605	1-554-303-21	SWITCH, TACTILE (ANS ▷▷|)	
S606	1-554-303-21	SWITCH, TACTILE (◀◀)	
S607	1-554-303-21	SWITCH, TACTILE (▶▶)	
S608	1-554-303-21	SWITCH, TACTILE (REC ●)	
S609	1-554-303-21	SWITCH, TACTILE (PAUSE ▮▮)	
S610	1-554-303-21	SWITCH, TACTILE (REC MUTE ◙)	
S611	1-554-303-21	SWITCH, TACTILE (CLOCK SET)	
S612	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S613	1-554-303-21	SWITCH, TACTILE (RESET)	
S614	1-554-303-21	SWITCH, TACTILE (MODE)	
S615	1-554-303-21	SWITCH, TACTILE (AUTO)	
S616	1-554-303-21	SWITCH, TACTILE (RENUMBER)	
S617	1-554-303-21	SWITCH, TACTILE (WRITE)	
S618	1-554-303-21	SWITCH, TACTILE (ERASE)	
		< VIBRATOR >	
X601	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	
X602	1-567-098-00	OSCILLATOR, CRYSTAL (32.768kHz)	

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Ref.No.	Part No.	Description	Remark
*	A-2007-083-A	PANEL (R) BOARD, COMPLETE (US, AEP)	
		*********************************	
*	A-2007-187-A	PANEL (R) BOARD, COMPLETE (G)	
		******************************	
*	3-385-607-01	HOLDER, FL TUBE	
	9-911-844-XX	CUSHION	
*	4-911-676-41	SPACER, LED	
		< CAPACITOR >	
C650	1-124-584-00	ELECT 100uF 20% 10V	
C652	1-124-248-00	ELECT 22uF 20% 35V	
C653	1-164-159-11	CERAMIC 0.1uF 50V	
C654	1-164-159-11	CERAMIC 0.1uF 50V	
C655	1-164-159-11	CERAMIC 0.1uF 50V	
C656	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C657	1-164-159-11	CERAMIC 0.1uF 50V	
		< CONNECTOR >	
* CN651	1-580-563-11	PIN, CONNECTOR (PC BOARD) 16P	

Ref.No.	Part No.	Description	Remark
		< COMPOSITION CIRCUIT BLOCK >	
CP650	1-239-832-11	COMPOSITION CIRCUIT BLOCK	
CP651	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP652	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP653	1-239-832-11	COMPOSITION CIRCUIT BLOCK	
CP654	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP655	1-239-822-11	COMPOSITION CIRCUIT BLOCK	
CP656	1-239-832-11	COMPOSITION CIRCUIT BLOCK	
		< DIODE >	
D651	8-719-304-16	SEL2510W-D (TAPE) (US, AEP)	
		< FLUORESCENT INDICATOR >	
FL651	1-517-272-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC651	8-752-850-63	IC CXP82220-009Q	
IC652	8-759-500-05	IC MSM6338MS-K	
		< TRANSISTOR >	
Q651	8-729-900-80	TRANSISTOR DTC114ES (US, AEP)	
Q652	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q653	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q654	8-729-620-05	TRANSISTOR 2SC2603-EF	
		< RESISTOR >	
R656	1-249-441-11	CARBON 100K 5% 1/4W	
R657	1-249-429-11	CARBON 10K 5% 1/4W	
R659	1-249-413-11	CARBON 470 5% 1/4W F	
R661	1-249-413-11	CARBON 470 5% 1/4W F(US, AEP)	
R663	1-249-441-11	CARBON 100K 5% 1/4W	
R664	1-249-441-11	CARBON 100K 5% 1/4W	
R665	1-249-441-11	CARBON 100K 5% 1/4W	
R666	1-249-441-11	CARBON 100K 5% 1/4W	
R667	1-249-409-11	CARBON 220 5% 1/4W F	
R668	1-249-428-11	CARBON 8.2K 5% 1/4W F	
R673	1-249-428-11	CARBON 8.2K 5% 1/4W F	
R676	1-249-441-11	CARBON 100K 5% 1/4W	
R677	1-249-441-11	CARBON 100K 5% 1/4W	
R678	1-249-441-11	CARBON 100K 5% 1/4W	
R679	1-249-441-11	CARBON 100K 5% 1/4W	
R680	1-249-441-11	CARBON 100K 5% 1/4W	
R681	1-249-441-11	CARBON 100K 5% 1/4W	
		< SWITCH >	
S651	1-554-303-21	SWITCH, TACTILE (MARGIN RESET)	
S654	1-692-839-11	SWITCH, TOGGLE (MONITOR) (US, AEP)	

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X651	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	

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Ref. No.	Part No.	Description	Remark
*	1-650-807-11	PIN JACK BOARD **************	
		< CAPACITOR >	
C101	1-136-810-11	FILM 220PF 5% 100V	
C141	1-136-810-11	FILM 220PF 5% 100V	
C201	1-136-810-11	FILM 220PF 5% 100V	
C241	1-136-810-11	FILM 220PF 5% 100V	
		< CONNECTOR >	
CN032	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
CN137	1-691-766-31	PLUG (MICRO CONNECTOR) 4P	
		< JACK >	
J301	1-568-101-11	JACK, PIN 4P (LINE IN, LINE OUT)	
		< RESISTOR >	
R173	1-247-739-11	CARBON 100 5% 1/2W	
R273	1-247-739-11	CARBON 100 5% 1/2W	

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Ref. No.	Part No.	Description	Remark
*	A-2007-087-A	POWER BOARD, COMPLETE (AEP,G) *****************************	
*	A-2007-234-A	POWER BOARD, COMPLETE (US) **************************	
*	1-650-796-11	POWER BOARD	
*	4-942-204-01	PLATE, GROUND	
*	1-533-293-11	FUSE HOLDER (US)	
		< CAPACITOR >	
C920	1-126-024-11	ELECT 220uF 20% 16V	
C921	1-164-159-11	CERAMIC 0.1uF 50V	
C922	1-124-473-11	ELECT 1000uF 20% 10V	
C923	1-164-159-11	CERAMIC 0.1uF 50V	
C924	1-126-024-11	ELECT 220uF 20% 16V	
C925	1-164-159-11	CERAMIC 0.1uF 50V	
C926	1-124-473-11	ELECT 1000uF 20% 10V	
C927	1-164-159-11	CERAMIC 0.1uF 50V	
C928	1-126-024-11	ELECT 220uF 20% 16V	
C929	1-126-022-11	ELECT 47uF 20% 10V	
C930	1-124-473-11	ELECT 1000uF 20% 10V	
⚠C940	1-161-744-51	CERAMIC 0.01uF 400V	
⚠C941	1-161-744-51	CERAMIC 0.01uF 400V	
⚠C942	1-161-742-00	CERAMIC 0.0022uF 20% 400V	
⚠C943	1-161-742-00	CERAMIC 0.0022uF 20% 400V	
⚠C944	1-161-742-00	CERAMIC 0.0022uF 20% 400V	
⚠C945	1-161-742-00	CERAMIC 0.0022uF 20% 400V	(AEP,G)
		< CONNECTOR >	
* CN920	1-564-512-11	PLUG, CONNECTOR 9P	
* CN921	1-564-340-00	PIN, CONNECTOR 6P	
CN922	1-564-506-11	PLUG, CONNECTOR 3P	
* CN923	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
* CN924	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
* CN940	1-564-321-00	PIN, CONNECTOR 2P	
CN941	1-580-629-21	PIN, CONNECTOR 2P	
* CN942	1-565-395-11	PIN, CONNECTOR 3P	
		< DIODE >	
D920	8-719-200-77	DIODE 10E2N	
D921	8-719-200-77	DIODE 10E2N	
		< FUSE >	
⚠F903	1-532-744-11	FUSE, GLASS TUBE (2.5A, 125V)(US)	
		< IC >	
IC920	8-759-144-82	IC UPC2405HF	
IC921	8-759-148-79	IC UPC2406HF	
		< COIL >	
⚠L940	1-421-915-11	COIL, LINE FILTER	
		< TRANSISTOR >	
Q920	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q921	8-729-209-15	TRANSISTOR 2SD2012	
		< RESISTOR >	
R920	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R921	1-249-429-11	CARBON 10K 5% 1/4W	

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Ref. No.	Part No.	Description	Remark
*	1-650-805-11	REC VOL BOARD *************	
		< CONNECTOR >	
CN302	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
		< DIODE >	
D301	8-719-987-63	DIODE 1N4148M	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

REC VOL RECT REMOTE CONTROL

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R101	1-249-486-11	CARBON 12K 5% 1/2W	
R102	1-249-703-11	CARBON 18K 5% 1/2W	
R201	1-249-486-11	CARBON 12K 5% 1/2W	
R202	1-249-703-11	CARBON 18K 5% 1/2W	
		< VARIABLE RESISTOR >	
RV301	1-241-360-11	RES, VAR, CARBON 50K/50K	
		< RELAY >	
RY301	1-515-804-11	RELAY	
**			
*	A-2007-099-A	RECT BOARD, COMPLETE (US) *************************	
*	A-2007-243-A	RECT BOARD, COMPLETE (AEP,G) ****************************	
*	1-533-293-11	FUSE HOLDER	
		< CAPACITOR >	
C901	1-109-875-11	ELECT 10000uF 20% 35V	(AEP,G)
C901	1-126-982-31	ELECT 5600uF 20% 35V	(US)
C901	1-109-875-11	ELECT 10000uF 20% 35V	(AEP,G)
C902	1-126-982-31	ELECT 5600uF 20% 35V	(US)
C903	1-136-165-00	FILM 0.1uF 5% 50V	
C904	1-136-177-00	FILM 1uF 5% 50V	
C905	1-126-017-11	ELECT 6800uF 20% 16V	
C906	1-126-946-11	ELECT 6800uF 20% 25V	
C907	1-126-053-11	ELECT 220uF 20% 50V	
C908	1-126-053-11	ELECT 220uF 20% 50V	
C909	1-126-059-11	ELECT 10uF 20% 50V	
C910	1-126-052-11	ELECT 100uF 20% 35V	
C911	1-164-159-11	CERAMIC 0.1uF 50V	
C912	1-124-999-11	ELECT 2200uF 20% 10V	
		< CONNECTOR >	
* CN901	1-564-104-00	PIN, CONNECTOR (B3P-VH) 3P	
CN903	1-691-767-11	PLUG (MICRO CONNECTOR) 5P	
CN904	1-564-506-11	PLUG (MICRO CONNECTOR) 5P	
		< DIODE >	
D901	8-719-230-02	DIODE 30DF2	
D902	8-719-230-02	DIODE 30DF2	
D903	8-719-230-02	DIODE 30DF2	
D904	8-719-230-02	DIODE 30DF2	
D905	8-719-312-47	DIODE RBA-406B	
D906	8-719-312-47	DIODE RBA-406B	
D910	8-719-200-77	DIODE 10E2N	

Ref. No.	Part No.	Description	Remark
D911	8-719-200-77	DIODE 10E2N	
D912	8-719-002-48	DIODE UZL-27H	
D913	8-719-014-70	DIODE UZP-5.6BB	
		< FUSE >	
⚠F901	1-532-286-00	FUSE, TIME-LAG (2.5A, 250V)(AEP,G)	
⚠F901	1-532-744-11	FUSE, GLASS TUBE (2.5A, 125V)(US)	
⚠F902	1-532-286-00	FUSE, TIME-LAG (2.5A, 250V)(AEP,G)	
⚠F902	1-532-744-11	FUSE, GLASS TUBE (2.5A, 125V)(US)	
		< RESISTOR >	
⚠FR901	1-212-865-00	FUSIBLE 22 5% 1/4W	F
⚠FR902	1-212-849-00	FUSIBLE 4.7 5% 1/4W	F
⚠FR903	1-219-137-11	FUSIBLE 0.33 10% 1/4W	
		< TRANSISTOR >	
Q901	8-729-140-97	TRANSISTOR 2SB734-34	
		< RESISTOR >	
R901	1-249-429-11	CARBON 10K 5% 1/4W	
R902	1-249-433-11	CARBON 22K 5% 1/4W	
		< THERMISTOR >	
TH901	1-808-065-11	THERMISTOR, POSITIVE	
TH902	1-808-065-11	THERMISTOR, POSITIVE	
**			
*	1-650-794-11	REMOTE CONTROL BOARD *******************	
		< CAPACITOR >	
C618	1-164-159-11	CERAMIC 0.1uF 50V	
		< CONNECTOR >	
* CN607	1-564-338-00	PIN, CONNECTOR 4P	
		< IC >	
IC603	8-749-922-36	IC GP1U50XB	
		< RESISTOR >	
R643	1-249-426-11	CARBON 5.6K 5% 1/4W	
R644	1-247-856-00	CARBON 11K 5% 1/4W	
		< SWITCH >	
S619	1-572-210-11	SWITCH, SLIDE (TIMER)	
**			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
*	A-2006-455-A	RF AMP BOARD, COMPLETE (G)			
		**************************			
		< CAPACITOR >			
C1	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C2	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C3	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C4	1-162-638-11	CERAMIC CHIP	1uF		16V
C5	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C6	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C7	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C8	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C9	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C10	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C11	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C12	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C13	1-162-638-11	CERAMIC CHIP	1uF		16V
C14	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C15	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C16	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C17	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C19	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C20	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C21	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C22	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C23	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C24	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C25	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C26	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C27	1-162-638-11	CERAMIC CHIP	1uF		16V
C28	1-164-505-11	CERAMIC CHIP	2.2uF		16V
		< CONNECTOR >			
* CN51	1-566-207-11	PIN, CONNECTOR (PC BOARD) 14P			
* CN52	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			
		< IC >			
IC1	8-752-039-01	IC CXA1364R			
		< COIL >			
L1	1-408-781-00	INDUCTOR CHIP	22uH		
L2	1-408-789-21	INDUCTOR CHIP	100uH		
L3	1-408-781-00	INDUCTOR CHIP	22uH		
		< RESISTOR >			
R1	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R2	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R3	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R4	1-216-066-00	METAL CHIP	5.1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R5	1-216-077-00	METAL CHIP	15K	5%	1/10W
R6	1-216-077-00	METAL CHIP	15K	5%	1/10W
R7	1-216-077-00	METAL CHIP	15K	5%	1/10W
R8	1-216-079-00	METAL CHIP	18K	5%	1/10W
R9	1-216-075-00	METAL CHIP	12K	5%	1/10W
R10	1-216-079-00	METAL CHIP	18K	5%	1/10W
R12	1-216-077-00	METAL CHIP	15K	5%	1/10W
R13	1-216-077-00	METAL CHIP	15K	5%	1/10W
R14	1-216-081-00	METAL CHIP	22K	5%	1/10W
R15	1-216-085-00	METAL CHIP	33K	5%	1/10W
R16	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R17	1-216-080-00	METAL CHIP	20K	5%	1/10W
R18	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-238-181-11	RES, ADJ, CERMET 4.7K			
RV2	1-238-181-11	RES, ADJ, CERMET 4.7K			

****

Ref. No.	Part No.	Description			Remark
*	A-2006-207-A	RF AMP (PB) BOARD, COMPLETE (US, AEP)			
		************************************			
		< CAPACITOR >			
C51	1-124-779-00	ELECT CHIP	10uF	20%	16V
C52	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C53	1-162-638-11	CERAMIC CHIP	1uF		16V
C54	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C55	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C57	1-124-779-00	ELECT CHIP	10uF	20%	16V
C58	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C59	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C60	1-162-638-11	CERAMIC CHIP	1uF		16V
C61	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C62	1-124-779-00	ELECT CHIP	10uF	20%	16V
C63	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C64	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C66	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C69	1-124-779-00	ELECT CHIP	10uF	20%	16V
C70	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C71	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C72	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN51	1-569-349-11	CONNECTOR, F.P.C 6P			
* CN52	1-564-725-11	PIN, CONNECTOR (SMALL TYPE) 9P			
		< IC >			
IC51	8-752-039-01	IC CXA1364R			

RF AMP (PB) RF AMP (REC/PB)

< COIL >

Ref. No.	Part No.	Description	Remark
L51	1-408-781-00	INDUCTOR CHIP 22uH	
L52	1-408-789-21	INDUCTOR CHIP 100uH	
L53	1-408-781-00	INDUCTOR CHIP 22uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q51	8-729-901-01	TRANSISTOR DTC144EK	
Q52	8-729-901-01	TRANSISTOR DTC144EK	
Q53	8-729-901-01	TRANSISTOR DTC144EK	
Q54	8-729-901-01	TRANSISTOR DTC144EK	
Q55	8-729-901-01	TRANSISTOR DTC144EK	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R51	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R52	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R53	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R54	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R55	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R56	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R57	1-216-084-00	METAL CHIP 30K 5% 1/10W	
R58	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R59	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R60	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R61	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R62	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R63	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	

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* A-2006-561-A RF AMP (REC/PB) BOARD, COMPLETE (US, AEP)

****

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C1	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C2	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C3	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C4	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C5	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C6	1-162-637-11	CERAMIC CHIP 0.47uF 16V	
C7	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V	
C8	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C9	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C10	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C11	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C12	1-162-638-11	CERAMIC CHIP 1uF 16V	
C13	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
C14	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C15	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C16	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V	
C17	1-162-637-11	CERAMIC CHIP 0.47uF 16V	
C18	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C19	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C20	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C21	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C22	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
C23	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C24	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
C25	1-164-182-11	CERAMIC CHIP 0.0033uF 10% 50V	
C26	1-163-007-11	CERAMIC CHIP 680PF 10% 50V	
C27	1-164-337-11	CERAMIC CHIP 2.2uF 16V	
C28	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN1	1-569-349-11	CONNECTOR, F.P.C 6P	
* CN2	1-566-194-11	PIN, CONNECTOR (PC BOARD) 15P	

< IC >

Ref. No.	Part No.	Description	Remark
IC1	8-752-039-01	IC CXA1364R	

< COIL >

Ref. No.	Part No.	Description	Remark
L1	1-408-781-00	INDUCTOR CHIP 22uH	
L2	1-408-781-00	INDUCTOR CHIP 22uH	
L3	1-408-777-00	INDUCTOR CHIP 10uH	
L4	1-408-789-21	INDUCTOR CHIP 100uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q1	8-729-903-82	TRANSISTOR FMW2	
Q2	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3	8-729-903-82	TRANSISTOR FMW2	
Q4	8-729-903-82	TRANSISTOR FMW2	
Q5	8-729-903-82	TRANSISTOR FMW2	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R1	1-216-025-00	METAL CHIP 100 5% 1/10W	
R2	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R3	1-216-076-00	METAL CHIP 13K 5% 1/10W	
R4	1-216-076-00	METAL CHIP 13K 5% 1/10W	
R5	1-216-096-00	METAL GLAZE 91K 5% 1/10W	
R6	1-216-096-00	METAL GLAZE 91K 5% 1/10W	
R7	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R8	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R9	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R10	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R11	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R12	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R13	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R14	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R15	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R16	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R17	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R18	1-216-044-00	METAL CHIP 620 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R19	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R20	1-216-078-00	METAL GLAZE 16K 5% 1/10W	
R21	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R22	1-216-096-00	METAL GLAZE 91K 5% 1/10W	
R23	1-216-078-00	METAL GLAZE 16K 5% 1/10W	
R24	1-216-083-00	METAL CHIP 27K 5% 1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV1	1-238-181-11	RES, ADJ, CERMET 4.7K	
RV2	1-238-181-11	RES, ADJ, CERMET 4.7K	
RV3	1-238-238-11	RES, ADJ, CERMET 22K	
RV4	1-238-238-11	RES, ADJ, CERMET 22K	

****

* 1-650-815-11 S-END BOARD

****

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q950	1-808-957-11	PHOTO SENSOR	

****

* 1-650-797-11 SBM SW BOARD

****

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN659	1-564-337-00	PIN, CONNECTOR 3P	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S652	1-554-118-00	SWITCH, PUSH (1 KEY) (EMPHASIS)	
S653	1-554-118-00	SWITCH, PUSH (1 KEY) (SBM)	

****

* 1-650-812-11 T-END BOARD

****

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q951	1-808-957-11	PHOTO SENSOR	

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MISCELLANEOUS

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Ref. No.	Part No.	Description	Remark
110	1-751-976-11	WIRE (FLAT TYPE) (17 CORE)	
* 112	1-533-293-11	FUSE HOLDER	
122	1-751-977-11	WIRE (FLAT TYPE) (23 CORE)	
⚠129	1-559-479-11	CORD, POWER (US)	
⚠129	1-575-912-11	CORD, POWER (AEP, G)	
BAT601	1-528-229-11	BATTERY, LITHIUM CR-2450	
FL601	1-517-271-11	INDICATOR TUBE, FLUORESCENT	
FL651	1-517-272-11	INDICATOR TUBE, FLUORESCENT	
⚠F901	1-532-286-00	FUSE, TIME-LAG (2.5A, 250V) (AEP, G)	
⚠F901	1-532-744-11	FUSE, GLASS TUBE (2.5A, 125V) (US)	
⚠F902	1-532-286-00	FUSE, TIME-LAG (2.5A, 250V) (AEP, G)	
⚠F902	1-532-744-11	FUSE, GLASS TUBE (2.5A, 125V) (US)	
⚠F903	1-532-744-11	FUSE, GLASS TUBE (2.5A, 125V) (US)	
M901	A-2004-301-A	MOTOR ASSY, CONTROL (LOADING)	
M902	8-835-306-01	MOTOR, DC U-17A (CAPSTAN)	
* M903	8-835-205-01	MOTOR, DC U-2A (REEL) (included PM901)	
M904	8-848-549-11	DRUM ASSY (DOU-15A-R) (AEP, US)	
M904	8-848-626-01	DRUM ASSY (DOU-03D-R) (G)	
M905	A-2003-910-A	MOTOR ASSY, CASSETTE	
PM902	1-454-522-11	SOLENOID, PLUNGER (FWD)	
⚠T901	1-426-719-11	TRANSFORMER, POWER (AEP, G)	
⚠T901	1-426-796-11	TRANSFORMER, POWER (US)	

****

ACCESSORIES & PACKING MATERIALS

****

Ref. No.	Part No.	Description	Remark
	1-467-482-11	REMOTE COMMANDER (RM-D2000) (GOLD)	
	1-467-482-21	REMOTE COMMANDER (RM-D2100) (BLACK)	
	1-558-271-11	CORD, CONNECTION (2 PHONO PLUGS TO 2 PHONO PLUGS)	
*	3-356-965-01	SPACER (US)	
	3-707-584-01	COVER, BATTERY (for RM-D2100) (BLACK)	
	3-707-584-11	COVER, BATTERY (for RM-D2000) (GOLD)	
	3-757-928-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH) (AEP)	
	3-757-928-21	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-757-928-41	MANUAL, INSTRUCTION (GERMAN, SWEDISH, DUTCH, ITALIAN) (AEP)	
	3-757-928-51	MANUAL, INSTRUCTION (GERMAN) (G)	
*	3-907-557-01	INDIVIDUAL CARTON	
*	3-907-558-01	CUSHION	
	4-847-802-00	SCREW (AEP, G)	
	3-757-928-31	MANUAL, INSTRUCTION (FRENCH) (AEP)	

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****

HARDWARE LIST

****

Ref. No.	Part No.	Description	Remark
#1	7-621-772-08	SCREW +B 2X3	
#2	7-621-772-20	SCREW +B 2X5	
#3	7-621-772-30	SCREW +B 2X6	
#4	7-628-253-05	SCREW +PS 2X4	
#5	7-627-553-27	SCREW, PRECISION +P 2X2.5	
#6	7-627-553-67	SCREW, PRECISION +P 2X5	
#7	7-621-775-08	SCREW +B 2.6X3	
#8	7-627-450-78	SCREW, PRECISION +K 1.7X4 (AEP, US)	
#8	7-627-852-48	PRECISION SCREW +P1.7X3.5TYPE3 (G)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
#9	7-627-552-47	SCREW, PRECISION +P 1.7X4	
#10	7-621-773-86	SCREW +B 2.6X4	
#11	7-685-884-09	SCREW +BVTT 4X14 (S)	
#12	7-685-870-01	SCREW +BVTT 3X5 (S)	
#13	7-682-546-09	SCREW +B 3X5	
#14	7-682-547-09	SCREW +BVTT 3X6 (S)	
#15	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#16	7-682-947-01	SCREW +PSW 3X6	
#17	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#18	7-621-772-18	SCREW +B 2X4	
#19	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#20	7-682-550-09	SCREW +B 3X12	
#21	7-621-255-10	SCREW +P 2X3	
#22	7-627-556-17	SCREW, PRECISION +P 2.6X3 TYPE1	
#23	7-685-102-19	SCREW +P 2X4 TYPE2 NON-SLIT	
#24	7-627-553-38	SCREW, PRECISION +P 2X3 (G)	

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Audio Group

9-959-185-11

DTC-2000ES

SONY

SERVICE MANUAL

US Model
AEP Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject : • PARTS CHANGED
• CORRECTION

(ECN-TC500800, SPM-95029)

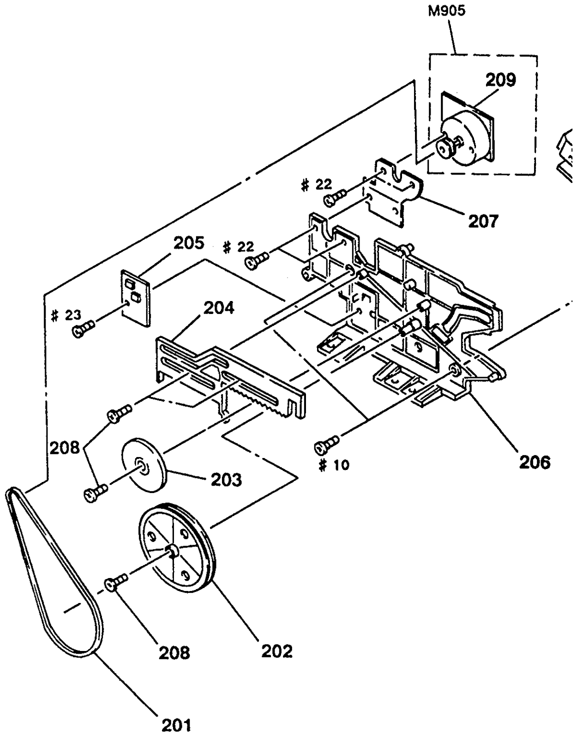
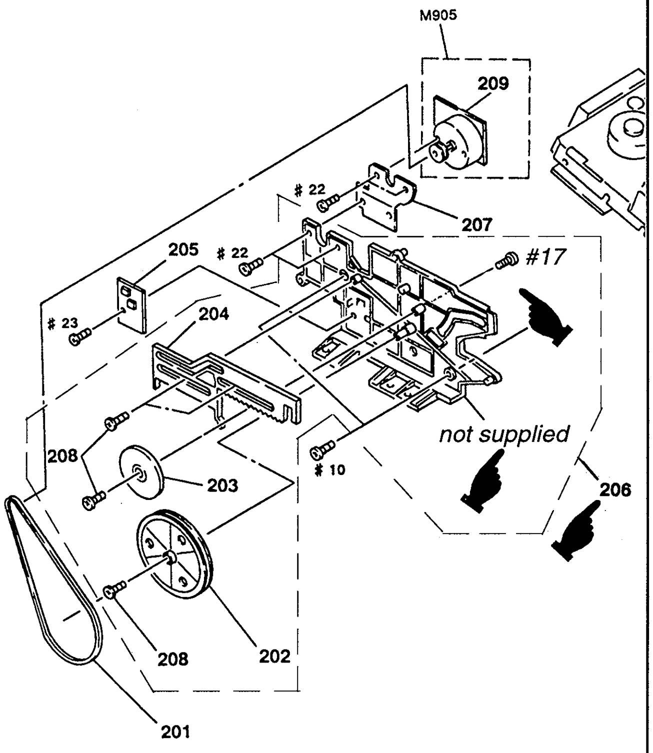
PARTS CHANGED

Revise your service manual as shown below due to parts supply classification has been changed.

Page	CURRENT			REVISED		
	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
106	453	X-3362-027-1	GUIDE ASSY, ROLLER	453	X-3371-518-1	ROLLER GUIDE ASSY

CORRECTION

☛ : indicates corrected portion.

Page	INCORRECT			CORRECT		
	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
104	206	3-373-234-05	CHASSIS (L)	206	A-2003-907-I ☛	CHASSIS (L) ASSY
						

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209
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SONY

SERVICE MANUAL

US Model
AEP Model

CORRECTION-1

Correct your service manual as shown below.

____ (Under line) : indicates corrected portion.

Page	INCORRECT			CORRECT		
	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
106	462	3-701-437-01	SHEET (CATCHER)	462	3-364-033-01	SHEET (CATCHER)

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